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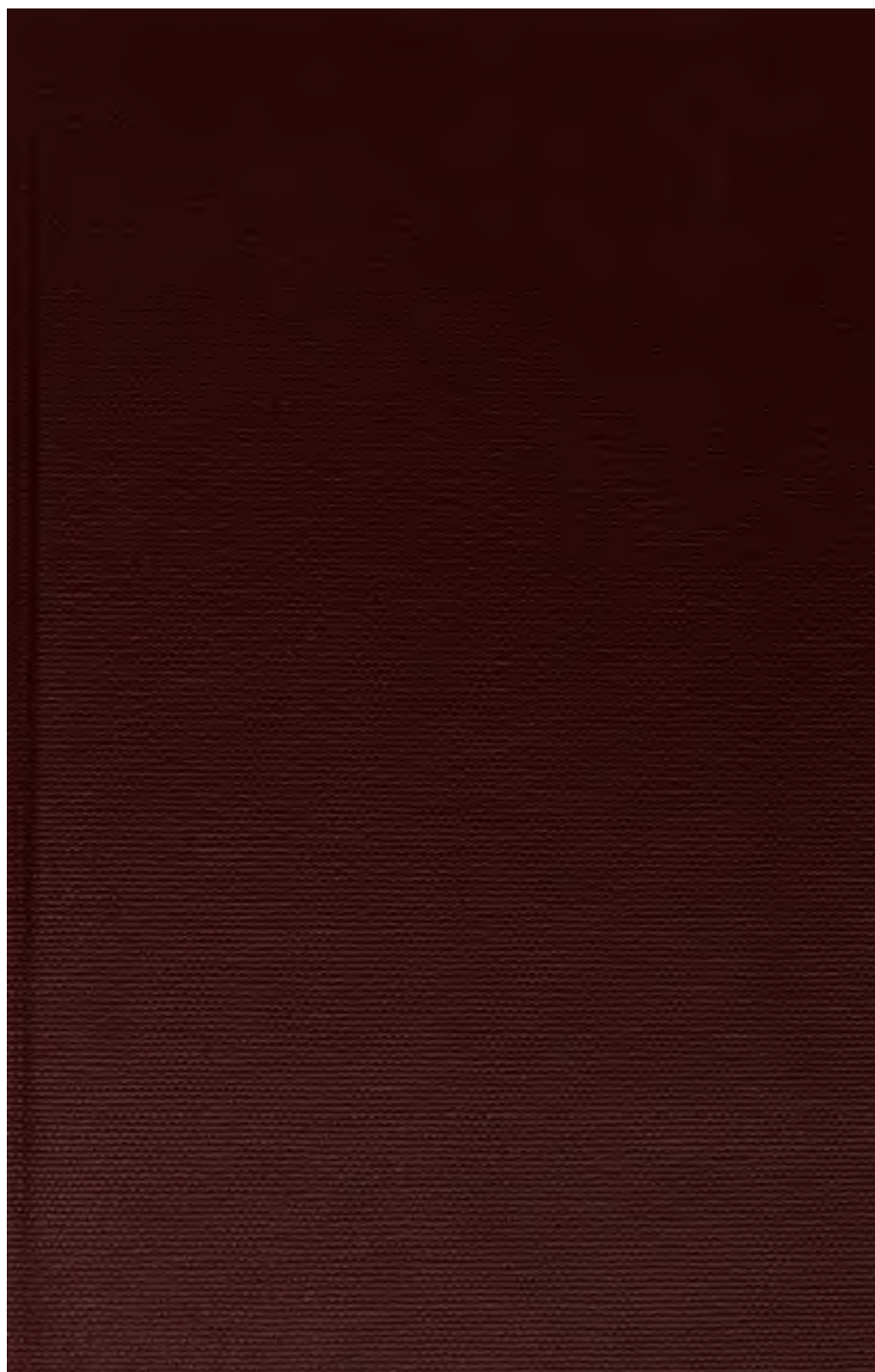
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THE BRITISH  
GYNÆCOLOGICAL JOURNAL

VOL. XIV.



# THE BRITISH GYNÆCOLOGICAL JOURNAL

BEING THE JOURNAL OF  
*THE BRITISH GYNÆCOLOGICAL SOCIETY.*

VOL. XIV.

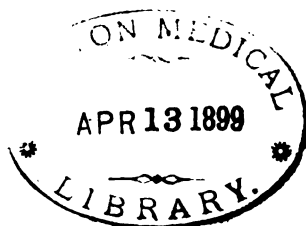
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C. 1892-4. V.-P. 1895-7.
- F.F. †BERTOLACCI, JOHN HEWETSON, L.S.A., Beaufort House, Knaphill, Surrey.
- 1886 †BIGGS, MOSES G., M.R.C.S., 101, Northcote Road, Wandsworth Common.
- 1891 BINNIE, R. M. G., M.D., Ryde House, Woking, Surrey.
- F.F. †BIRD, GEORGE GWYNNE, M.R.C.S.Eng., Ellesmere, 451, Edgware Road, w.
- 1898 BISHOP, EDWARD STANMORE, F.R.C.S.Eng., L.R.C.P.Edin., 316, Oxford Road, Manchester.
- L. F.F. †BLAKE, EDWARD, M.D., Berkeley Mansions, 64, Seymour Street, Hyde Park, w.
- 1898 †BLAKISTON, AUBREY, L.R.C.P. & S.Ed., 88, Harley Street, w.
- L. 1890 BOLDT, H. J., M.D., 54, West 51st Street, New York, U.S.A.

## Elected

- 1891 †BOURKE, W. H., M.D., 8, Moreton Gardens, s.w.
- 1887 †BOURNS, N. WHITELAW, M.D.Brux., M.R.C.S.Eng., L.R.C.P.Ed.,  
78, Redcliffe Gardens, South Kensington, s.w. C. 1899.
- 1887 †BOWIE, ALEX., M.D., C.M., 40, Hertford Street, Mayfair.
- 1894 BOYD, ALEXANDER BROOKE, M.A., M.B., B.Ch.Oxon., 101, Montreal  
Street, Christchurch, N.Z.
- 1887 BOYD, J. ST. CLAIR, M.D., R.U.I., M.Ch., B.A.O., 27, Victoria Place,  
Belfast.
- L. 1885 BOYD, JAMES P., M.D., *Professor of Obstetrics and Gynæcology Albany  
Medical College*, 152, Washington Avenue, Albany, New York,  
U.S.A.
- 1891 BRAMWELL, HERBERT, M.D., 32, Promenade, Cheltenham.
- 1891 BREWIS, N. T., M.B., C.M.Edin., F.R.C.P.Ed., 23, Rutland Street,  
Edinburgh.
- 1893 †BRIDGER, ADOLPHUS E., M.D., F.R.C.P.E., *Physician St. Pancras  
and Northern Dispensary*, 18, Portland Place, w.
- 1899 BROWN, JOHN HENRY, M.D.Edin., M.R.C.S., 14, Burngreave Road,  
Sheffield.
- 1895 \*BROWN, JOHN LEWIS, M.B., C.M.Edin.
- 1896 †BROWNE, RALPH HENRY, M.R.C.S., L.R.C.P.Lond., 57, Curzon  
Street, w.
- L. 1889 BROWNLEE, MILNE, M.D., Woodstock, Ontario, Canada.
- L. 1885 BUDIN, PIERRE, M.D., *Professeur agrégé à la Faculté de Médecine de  
Paris, Accoucheur de la Charité*, 4, Avenue Hoche, Paris.
- 1887 †BURFORD, GEORGE HENRY, M.B., C.M.Aber., 35, Queen Anne Street,  
w.
- 1898 †BURKE, PATRICK JOSEPH, M.D., M.Ch., M.A.O., R.U.I., 23, Long  
Lane, Borough, s.e.
- 1898 \*BURLEIGH-ROBINSON, WILLIAM JOHN, M.D.Dun.
- 1887 BURY, EDWARD CHARLES, M.D. St. And., M.R.C.S., L.S.A., 5, York  
Row, Wisbech, Cambs.
- L. F.F. †BUXTON, DUDLEY WILMOT, M.D., B.S., M.R.C.P.Lond., *Anæsthetist  
to University College Hospital*, 82, Mortimer Street, Cavendish  
Square, w. C. 1895-7.
- 1885 †BYERS, JOHN WILLIAM, M.A., M.D., M.Ch. (Q.U.I.), M.R.C.S.E.,  
L.M.K. and Q.C.P.I., *Professor of Midwifery and Diseases of  
Women and Children, Queen's College, Belfast, and Physician for  
Diseases of Women to the Royal Hospital, Belfast, Lower Crescent,  
Belfast.* Hon. Loc. Sec. C. 1893-5. V.-P. 1896-8.
- 1894 BYFORD, HENRY T., M.D., 100, State Street, Chicago, Ills., U.S.A.
- 1895 CAFFERATA, ADOLPHUS M., M.D., Avenue du Marteau, Spa, Belgium.
- 1887 CALDWELL, W. SPENCER, M.D., Freeport, Ills., U.S.A.
- 1889 \*CALLAGHAN, JAMES LESLIE, L.R.C.P.Edin. and L.R.C.S.I.
- F.F. †CAMBRIDGE, THOMAS ARTHUR, M.R.C.S.Eng., L.S.A., Stanley  
Lodge, Waltersville Road, Upper Hornsey Rise, N.  
C. 1887-9. V.-P. 1890-2.

*List of Fellows of the*

## Elected

- 1887 CAMERON, J. C., M.D., *Professor of Midwifery, McGill University*, 941, Dorchester Street, Montreal.
- 1895 CAMERON, MURDOCH, M.D., *Regius Professor of Midwifery and Diseases of Women in the University of Glasgow*, 7, Newton Terrace, Glasgow. Hon. Loc. Sec. C. 1899.
- 1898 †CAMERON, WILLIAM JOHN, M.B.Lond., Ellerslie, 12, Balham Park Road, s.w.
- 1897 CAMPBELL, COLIN GRAHAM, M.B., C.M.Edin., Armagh Street, Christchurch, New Zealand.
- 1894 CAMPBELL, JOHN, M.A., M.D., M.Ch., M.A.O., R.U.I., F.R.C.S. Eng., *Senior Physician Samaritan Hospital for Women, Belfast*, 21, Great Victoria Street, Belfast. C. 1899.
- F.F. CAMPBELL, WILLIAM FREDERICK, L.R.C.P.Ed., I.F.P.S.G., L.S.A.Lond., 43, High Street, Rotherham, Yorkshire.
- 1892 CANNADAY, C. G., M.D., Roanake, Virginia, U.S.A.
- L. 1886 CARSTENS, J. HENRY, M.D., Detroit, Michigan, U.S.A.
- 1891 †CARTER, ARTHUR JOSEPH, M.R.C.S., 75, Shepherd's Bush Road, w.
- F.F. †CARTER, GEORGE ROE, M.R.C.P.I., L.R.C.S.I., Oakhurst, 2, Anerley Park, s.e. C. 1899.
- F.F. †CARVELL, JOHN MACLEAN, M.R.C.S., L.S.A., 24, Queen's Gardens, Brownhill Road, Hither Green, s.e.
- 1898 CARWARDINE, THOMAS, M.S.Lond., F.R.C.S.Eng., 7, Buckingham Place, Clifton, Bristol.
- F.F. †CASE, WILLIAM, M.R.C.S., L.S.A., Denmark House, Caistor-on-Sea, Norfolk.
- 1889 †CATELL, G. TREW, M.D.Bru., L.R.C.P.Lond., M.R.C.S.Eng. and L.S.A., 30, Hereford Square, South Kensington, s.w.
- 1895 †CHAMBERS, EBER, M.D.Aber., M.R.C.S., *District Medical Officer, City of London Lying-in-Hospital*, 1, Wilmington Square, w.c.
- L. 1885 CHAMBERS, P. FLEWELLEN, M.D., 26, West Forty-seventh Street, New York, U.S.A.
- 1898 †CHEETHAM, SYDNEY WILLIAM, M.R.C.S., L.R.C.P.Lond., 8, Norwich Road, Forest Gate, e.
- 1898 CHESTNUTT, HENRY, L.R.C.P. and S.Ed., Tralee, Co. Kerry, Ireland.
- 1898 CHESTNUTT, JOHN, B.A., R.U.I., L.R.C.S., L.R.C.P., Derwent House, Howden, East Yorkshire.
- 1892 CHENEY, BENJAMIN AUSTIN, M.D., 40, Elm Street, New Haven, Connecticut, U.S.A.
- F.F. CLARK, JAMES FENN, M.R.C.S., L.S.A., Clent House, Beauchamp Square, Leamington.
- 1895 †CLARK, TOM, L.R.C.P. & S.Edin., 1, Westbourne Street, Eaton Square, s.w.
- 1898 CLARK, JOSEPH JOHN, L.R.C.P.I., L.S.A., 77, Markhouse Road, Walthamstow.
- 1898 CLARKE, RICHARD ASHMORE, L.R.C.S. & P.I., *Surgeon to Teddington Cottage Hospital*, Goudhurst, Teddington.

## Elected

- L. 1887 †CLARKE, THOMAS KILNER, F.R.C.S.Eng., M.D., M.A.Cantab.,  
*Surgeon Huddersfield Infirmary*, 66, John William Street, Hudders-  
field. C. 1895-7
- 1896 †CLAYTON, CHARLES HOLLINGSWORTH, M.R.C.S., L.R.C.P., 10,  
College Terrace, Belsize Park, N.W.
- 1886 CLEGHORN, GEORGE, M.D.Dur., Blenheim, Marlborough, New  
Zealand. C. 1893-5.
- L. F.F. CLENDINNEN, FREDERICK JOHN, L.R.C.P.Lond., L.R.C.P. & S.  
Edin., Melbourne, Australia. Hon. Loc. Sec.
- F.F. †COFFIN, R. MAITLAND, F.R.C.P.Edin., 3, Westgate Terrace, Redcliffe  
Square, S.W.
- F.F. COGHILL, JOHN GEORGE SINCLAIR, M.D., F.R.C.P.Edin., *Physician*  
*Royal National Hospital for Consumption, Ventnor*, St. Catherine  
House, Ventnor, Isle of Wight. C. 1884-6. V.-P. 1888-90.
- 1898 †COKER, OWEN COLE, L.R.C.P., L.S.A., 155, Uxbridge Road, W.
- L. F.F. COLE, RICHARD BEVERLEY, M.D., A.M., M.R.C.S.Eng., Ph.D.,  
San Francisco, California, U.S.A.
- F.F. †COLEMAN, CHARLES ALFRED, M.D.Edin., Hill View, Streatham  
Common, S.W.
- 1893 †COLENZO, ROBERT J., M.A., M.B.Oxon., M.R.C.S., 91, Cromwell  
Road, S.W.
- 1890 COLLINS, E. TENISON, M.R.C.S., L.S.A., 12, Windsor Place, Cardiff.  
Hon. Loc. Sec. C. 1896-8.
- 1885 CONDON, JAMES HUNT, M.D. St. And., M.R.C.S., L.S.A., L.M.Dublin,  
*Brigade Surgeon Indian Army Medical Department*, Cawnpore,  
India.
- 1892 †COOPER, JAMES, M.R.C.S., L.R.C.P.Lond., 1, Lancaster Terrace,  
Regent's Park, N.W.
- 1895 †CORBOULD, VICTOR A. L. E., M.D.BruX., M.R.C.S., L.R.C.P., 43,  
Victoria Road, Kensington, W.
- L. F.F. CORDES, AUGUSTE E., M.D.Paris., M.R.C.P.Lond., *Privat-Dozent of*  
*Midwifery, ex-chirurgien-ajoint à la Maternité*, 12, Rue Bellot,  
Geneva. V.-P. 1897-9.
- 1898 CRABBE, JOHN SANDISON, L.R.C.P. & S.Ed., Copeley Hill, near  
Birmingham.
- 1895 CRAIG, WILLIAM BEDFORD, M.D., *Visiting Gynaecologist to St. Luke's*  
*and St. Joseph's Hospital, Denver, and Professor of Gynaecology in*  
*the University of Denver Medical Department*, 122, East Sixteenth  
Avenue, Denver, Colorado, U.S.A.
- F.F. CRANNY, JOHN JOSEPH, M.D.Dub., A.B., F.R.C.S.I., *Surgeon to the*  
*Jervis Street Hospital, late Examiner in Midwifery, Royal College*  
*of Surgeons, Ireland*, 17, Merrion Square, Dublin.
- F.F. CREASE, J. ROBERTSON, F.R.C.S.Edin., 2, Ogle Terrace, South  
Shields.
- 1886 CRESSWELL, PEARSON ROBERT, F.R.C.S.Ed., *Surgeon Merthyr General*  
*Hospital, &c.*, Dowlais, Merthyr Tydvil.
- 1888 \*CRICHTON, GEORGE, A.M. St. And., M.D.Edin., L.R.C.S.Edin.

## Elected

- F.F. †CRIPPS, C. COUPER, M.D., M.R.C.S., 187, Camberwell Grove, Denmark Hill, S.E.
- 1888 †CRISP, ERNEST HENRY, B.A.Camb., L.R.C.P., M.R.C.S., The Lawns Balham Hill, Clapham Common, S.W.
- 1891 CROMIE, JOHN, L.R.C.P. & S.Edin., 49, Stanley Street, Blyth, Northumberland.
- 1891 CROOM, JOHN HALLIDAY, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E., *Physician to, and Clinical Lecturer on Diseases of Women Royal Infirmary, and Physician to the Royal Maternity Hospital, Edinburgh*, 25, Charlotte Square, Edinburgh. C. 1884-6. V.-P. 1887-9.
- L. 1887 CROUZAT, E., M.D., *Professeur de Clinique d'Accouchements à la Faculté de Médecine de Toulouse*, Toulouse, France.
- 1895 CUFFE, ROBERT, M.R.C.S., L.S.A., Woodhall Spa, Lincoln.
- 1898 CUMMING, GEORGE WILLIAM HAMILTON, M.R.C.S., L.R.C.P., Annandale, Torquay, S. Devon.
- 1896 DARLEY-HARTLEY, WILLIAM, L.R.C.P.Ed., M.R.C.S.Eng., Central Chambers, East London, Cape Colony.
- 1895 †DAUBER, JOHN H., M.A., M.B., B.Ch.Oxon., *Assistant Physician Hospital for Women, Soho*, 29, Charles Street, Berkeley Square, W.
- F.F. †DAVIES, ELLIS THOMAS, M.D., *Senior Assistant Surgeon Hospital for Women, Liverpool*, 97, Shaw Street, Liverpool.
- 1892 DAVIES, W. J. F., M.D., Johannesburg, South Africa.
- 1892 \*DAVIS, W. E. B., M.D.
- 1897 †DELAMOTTE, PETER WILLIAM, M.R.C.P.Edin., M.R.C.S.E., Gresham Lodge, Staines, Middlesex.
- 1898 †DEVANE, THOMAS FRANCIS, L.R.C.P. & S.Ed., 23, Maple Road, Anerley, S.E.
- 1895 †DE JERSEY, WALTER BROCK, B.A., M.B., B.C.Cantab., Netherton, Guildford, Surrey.
- L. 1887 DEWES, FREDERICK JOSEPH, L.R.C.P.Lond., M.R.C.S.E., *Surgeon Captain Madras Army*, care of Messrs. Binney & Co., Madras, India.
- 1886 †DICKSON, CHARLES COCHRANE, L.R.C.P. & S.Ed., Bowmont House, Willesden Lane, N.W.
- L. F.F.†DINGLE, WILLIAM ALFRED, M.D. St. And., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., *Surgeon Royal Maternity Charity*, 46, Finsbury Square, E.C. C. 1889-91. V.-P. 1892-4.
- 1887 †DINGLEY, WILLIAM, M.R.C.S., L.S.A., 277, Camden Road, N. C. 1895-7.
- L. 1888 DIRNER, GUSTAV, M.D., 9, Kossuth Utoxa, Buda Pesth, Hungary.
- 1898 \*DISNEY, HENRY, M.D.Dublin.
- F.F. †DIXON, WILLIAM EDWARD, L.R.C.P.Ed., F.R.C.S.Ed., M.R.C.S., "Bridge Cot," Oulton Broad, Lowestoft.

## Elected

- 1891 DODD, T. A., M.R.C.S., L.R.C.P.Ed., *Visiting Surgeon Newcastle-on-Tyne Workhouse Hospital*, 4, Eldon Square, Newcastle-on-Tyne.
- 1898 DODSWORTH, CHARLES FREDERICK, L.R.C.P., M.R.C.S., Arlington Park, Gunnersbury.
- F.F. †DOLAN, THOMAS M., M.D., F.R.C.S.Edin., Horton House, Halifax, Yorkshire. C. 1886-8 & 1892-4. V.-P. 1889-91.
- 1896 \*D'OMBRAIN, ERNEST ARTHUR, M.B., B.S.Melb.
- 1898 †DON, WILLIAM WALTON, M.D.Glas., 466, Edgware Road, w.
- 1895 †DONALD, ARCHIBALD, M.A., M.D.Edin., M.R.C.P.Lond., *Obstetric Physician Royal Infirmary, Manchester*, Platt Abbey, Rusholme, Manchester. C. 1897-9.
- 1897 DONALD, HUGH COLLIGHAN, M.B.Glas. and C.M., 5, Gauze Street, Paisley.
- 1898 DONOVAN, WILLIAM, M.D.Dur., L.R.C.P. & S.Ed., "Glandore," Erdington, Birmingham.
- L. 1889 DOUGLAS, RICHARD, M.D., Nashville, Tennessee, U.S.A.
- 1895 †DOVE, PERCY WILLIAM, L.R.C.P., M.R.C.S., 80, Crouch Hill, n.
- 1896 †DOWNES, JOSEPH LOCKHART, M.B., C.M. (Glasgow), 271, Romford Road, e.
- 1898 DOYEN, E., M.D.Paris, 5, Rue Cotta, Rheims, France.
- 1898 †DRAKE, A. THOMSON, M.B., R.U.I., 160, Lewisham High Road, s.e.
- F.F. †DRAKE-BROCKMAN, EDWARD FOSTER, F.R.C.S.Eng., L.R.C.P.Lond., 14, Welbeck Street, w.
- L. F.F. DRAPER, JAMES WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., Almondbury, Huddersfield.
- 1891 DRUMMOND, JAMES, M.D., Wyvestow Lodge, South Shields.
- L. 1885 DUDLEY, EMILIUS CLARKE, A.B., M.D., *Professor of Gynaecology Chicago Medical College*, 1617, Indiana Avenue, Chicago, U.S.A.
- 1889 DUKE, EDGAR, M.D.Durh., M.R.C.S.Eng., 11, Wilbury Road, Hove, West Brighton.
- F.F. DUNDAS, MORDAUNT GEORGE, M.R.C.S., L.S.A., 46, Prince of Wales Road, Norwich.
- 1896 †DUTCH, HENRY, M.D.Bru.x., L.R.C.P.Lond., 8, Berkeley Street, Berkeley Square, w.
- 1891 †EASTES, THOMAS, M.D., F.R.C.S., 18, Manor Road, Folkestone. C. 1899.
- 1890 ECCLES, F. R., M.D., *Professor of Gynaecology at the Western University*, Ellwood Place, London, Ontario, Canada.
- 1894 †EDGE, FREDERICK, M.D., B.S., B.Sc.Lond., M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon to the Wolverhampton Hospital for Women*, Oakfield, Compton Road, Wolverhampton. C. 1897-9.
- 1899 EDGELOW, A. W. H., L.S.A., 18, Cathcart Road, South Kensington.
- F.F. †ELDER, GEORGE, M.D., *Surgeon Samaritan Hospital for Women, Nottingham*, 17, Regent Street, Nottingham. C. 1890-2. V.-P. 1897-9.

## Elected

- 1895 †ELIOT, ERNEST FRED, L.R.C.P. & S.Ed., *Surgeon Women's Hospital, Southampton*, 13, East Park Terrace, Southampton.
- 1898 †ELLIOTT, FRANK PERCY, M.B., C.M.Aberd., 113, Grove Road, Walthamstow, Essex.
- 1898 EMMERSON, THOS. G., M.D., M.Ch., R.U.I., Wantage, Berks.
- 1894 EMMET, BACHE MCE., M.D., 18, East Thirtieth Street, New York, U.S.A.  
Hon. Loc. Sec.
- 1892 ENGLEMAN, FREDK., M.D., Kreuznach, Germany.
- L. 1885 ENGLEMAN, GEORGE J., M.D., 336, Beacon Street, Boston, U.S.A.
- L. 1892 ENGSTRÖM, OTTO, M.D., Helsingfors, Finland.
- F.F. \*ENSOR, EDWIN THOMAS, M.D.Univ.N.Y., L.R.C.P.I., &c.

- 1885 FEARNLEY, WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., Fern Villa, Harrogate.
- 1891 FEHLING, PROFESSOR, M.D., 15, Magdeburger Strasse, Halle.
- L. 1886 FENGER, CHRISTIAN, M.D., 269, La Salle Avenue, Chicago, Illinois, U.S.A.
- 1894 †FENTON, FREDERICK ENOS, F.R.C.S.E., M.R.C.P.Edin., Langstone, Uxbridge Road, Ealing, w.
- 1896 †FENWICK, BEDFORD, M.D.Durh., M.R.C.P.Lond., *Physician to the Hospital for Women, Soho*, 20, Upper Wimpole Street, w.
- 1893 †FERGUSON, GEO. GUNNIS, M.B., C.M.Glas., Fern-Combe, New West End, Finchley Road.
- 1895 FERGUSSON, JAMES HAIG, M.D., F.R.C.P.E., *Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, Examiner in Midwifery, University of Edinburgh, and Royal College of Physicians*, 25, Rutland Street, Edinburgh.
- 1893 FINDLAY, WILLIAM, A.M., M.B., C.M.Aber., 475, Union Street, Aberdeen, N.B.
- 1898 FITZMAURICE, NICHOLAS FITZHENRY, L.R.C.P. & S.Edin., D.P.H. Vict., Springhill, Stockport, Cheshire.
- 1895 FITZGERALD, WILLIAM ALEXANDER, M.D., B.A.Dublin, F.R.C.S., Villa Ciro, Monte Carlo.
- 1898 FLOYD, THOMAS SARGENT, M.A., M.D.Dublin, 16, Devonshire Road, Cloughton, Birkenhead.
- 1898 \*FLYNN, EDMOND F., L.R.C.P. & S.I.
- 1898 FOGERTY, WILLIAM A., M.D., M.Ch., M.A.O., *Surgeon Limerick Hospital*, 61, George Street, Limerick.
- 1898 †FOOTT, RICHARD ERNEST, L.R.C.P. & S.E., Brandon Lodge, Wood Green, N.
- F.F. †FORDHAM, JOHN W., L.R.C.P.Edin., M.R.C.S.Eng., 78, Mile End Road, E.
- 1891 FORDE, ERNEST S., L.R.C.P. & S.Ed., Dalry, Galloway.
- 1898 FRANZ, R. GRANT, M.D., Marburg and Berlin, Schwalbach, Germany.

## Elected

- 1885 FRASER, GRÆME BISDER, M.R.C.S., L.S.A., Belvidere, Weston-super-Mare.
- 1885 †FULLER, LEEDHAM, M.R.C.S.Eng., L.S.A.Lond., Streatham Hill, s.w.
- F.F. †GAGE-BROWN, CHARLES HERBERT, M.D., C.M.Ed., 85, Cadogan Place, s.w. C. 1898-9.
- 1898 GALE, ARTHUR, M.R.C.S.Eng., L.R.C.P.Lond., Manorgate House, Kingston Hill, Surrey.
- 1895 †GALLOWAY, ARTHUR W., L.R.C.P., M.R.C.S., 79, New North Road, N.
- F.F. †GARDINER, BRUCE HUBERT JOHN, M.D., L.R.C.P.Edin., M.R.C.S., 48, Barry Road, East Dulwich, s.e.
- 1894 †GARDNER, HAROLD BELLAMY, M.R.C.S.Eng., L.R.C.P.Lond., *Anæsthetist Charing Cross Hospital*, 52, Beaumont Street, w. C. 1899.
- F.F. GARDNER, WILLIAM, M.D., *Professor of Gynæcology in McGill University*, 109, Union Avenue, Montreal, Canada. V.-P. 1887-9.
- 1895 †GEORGE, WM. HOTTEN, M.R.C.S.Eng., L.R.C.P.Ed., 9, Osnaburgh Street, N.W.
- 1895 GIFFARD, H. E., M.R.C.S., Denham House, Egham, Surrey.
- 1893 †GILES, ARTHUR E., M.D., B.Sc.Lond., M.B., Ch.B.Vict., F.R.C.S. Ed., M.R.C.P.Lond., *Surgeon to Out-Patients, Chelsea Hospital for Women*, 37, Queen Anne Street, Cavendish Square, w. Hon. Sec. 1898-9. Editor, 1899.
- L. 1885 GILES, PETER, M.R.C.S., L.R.C.P., The Quinta, Brobury, Hereford.
- F.F. †GIMSON, THOMAS STEVENS, M.R.C.S., 32, Fitzroy Square, w.
- 1897 GODFREY, FRANK W. A., M.D.Edin. & C.M., *House Surgeon Scarborough Hospital and Dispensary*, 5, Montpellier Terrace, Scarborough.
- 1891 †GODSON, CLEMENT, M.D., M.R.C.P., *Consulting Physician to the City of London Lying-in Hospital, late Assistant Physician Acch. St. Bartholomew's Hospital*, 9, Grosvenor Street, w. C. 1892-4 & 1897-9. Pres. 1895-6.
- F.F. GOLDSMITH, GEORGE POCOCK, M.D., 3, Harpur Place, Bedford. C. 1891-3.
- 1891 GOWANS, WILLIAM, M.D., F.R.C.S.Edin., Westoe House, Westoe, South Shields.
- 1896 †GRANT, WILLIAM FRANCIS, M.D.Edin., 38, Green Street, Bethnal Green, E.
- 1896 GRAY, WILLIAM, M.B. and C.M.Edin., Church Square, West Hartlepool.
- 1891 GREEN, W. O., M.D., 709, 2nd Street, near Chestnut, Louisville, Kentucky, U.S.A.
- F.F. †GRIFFITH, G. DE GORREQUER, L.R.C.P., M.R.C.S., *late Senior Physician to Hospital for Women and Children, Pimlico*, 34, St. George's Square, s.w., and New Indian Club, Whitehall Gardens, s.w.



## Elected

- F.F. †GRIGG, W. CHAPMAN, M.D., M.R.C.P., *Physician to Queen Charlotte's Hospital, late Assistant Obstetric Physician to the Westminster Hospital*, 27, Curzon Street, Mayfair, w.  
C. 1884-6 & 1892-4. Hon. Sec. 1886-7. V.-P. 1888-90. Pres. 1891.
- L. 1885 †GRIMSDALE, THOMAS RABINGTON, B.A., M.B.Cantab., M.R.C.S., *Assistant Surgeon Hospital for Women, Liverpool*, 29, Rodney Street, Liverpool. Hon. Loc. Sec. C. 1894-6.
- 1898 †GUNTON, GEORGE ANDREW, L.R.C.P.I., L.S.A., 318, King's Road, Chelsea, S.W.
- 1885 HACKNEY, JOHN, M.D., M.R.C.S., L.S.A., Oaklands, Hythe, Kent.
- 1895 HALL, ERNEST AMOS, M.D., C.M.Ont., L.R.C.P.Ed., Victoria, British Columbia.
- L. 1885 HALL, RUFUS B., M.D., 37, Crown Street, Walnut Hills, Cincinnati, U.S.A.
- L. 1886 HANKS, HORACE TRACY, M.D., 766, Madison Avenue, New York, U.S.A.
- 1898 HANSON, ARTHUR STEPHEN, M.R.C.S., L.R.C.P., Titchfield, Fareham, Hants.
- 1897 †HARLEY, HENRY, M.D., R.U.I., 27, Victoria Road, Battersea Park, S.W.
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- 1898 †HARTT, CHARLES HENRY, L.R.C.P.I., L.R.C.S.I., L.M., 14, Croom's Hill, Greenwich.
- 1897 †HARTLEY, REGINALD, F.R.C.S.Ed., 68, Porchester Terrace, Hyde Park, w.
- F.F. HASLAM, WM. DOIGE, M.D.Brux., M.R.C.S.Eng., L.S.A., Walpole House, Wallington, Surrey.
- F.F. †HAULTAIN, FRANCIS WM. NICOL, M.D., F.R.C.P.Ed., *Physician for Diseases of Women, Royal Dispensary, Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine*, 17, Rutland Street, Edinburgh. Hon. Loc. Sec. C. 1896-8.
- 1889 HAWKES, A. E., M.D.Brux., L.R.C.P. and S.Ed., 22, Abercromby Square, Liverpool.
- 1891 \*HAWKINS-AMBLER, G. A., F.R.C.S.Edin.
- L. 1886 HEADLEY, W. BALLS, M.A., M.D., F.R.C.P., 4, Collins Street, Melbourne, Australia. C. 1896-8.
- 1887 HEALD, BENJAMIN GREY, L.R.C.P.Ed., L.F.P.S.G., Red House, East Street, Leeds.
- F.F. †HEBERT, PAUL ZOTIQUE, M.D., C.M.McGill, L.R.C.P.Lond., 16A, Old Cavendish Street, Cavendish Square, w. C. 1896-8.
- L. 1885 HEIBERG, WILHELM, M.D., *Surgeon to the County Hospital of Copenhagen*, Frederiksberg, Copenhagen.
- 1898 HELME, THOMAS ARTHUR, M.D.Edin., M.R.C.P.Lond., M.R.C.S.Eng., 337, Oxford Road, Manchester.

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- 1896 HENRY, THOMAS JAMES, F.R.C.S.Ed., Grafton, Clarence River, New South Wales.
- L. 1887 HETHERINGTON, GEO. ALBERT, M.D., St. John, N.B., Canada.
- F.F. †HICKS, GEORGE BORLASE, M.R.C.S.Eng., L.R.C.S. Edin., 149, Amberst Road, Hackney Downs, N.E.
- 1898 HILDIGE, HENRY JOHNSON, L.R.C.P. and S.I., Brookfield, Pinner, Middlesex.
- 1891 \*HILL, J. STONELEY, M.B. and C.M.Edin.
- F.F. †HILLS, AUGUSTUS PHILLIPS, M.R.C.S.Eng., Carlton House, Prince of Wales Road, Battersea Park, S.W. C. 1888-9.
- F.F. †HINE, ALFRED LEONARD, L.R.C.P.Lond., M.R.C.S., L.S.A., Eppingdale, Leytonstone Road, E. C. 1891-2.
- 1898 †HINGSTON, WILLIAM F., M.D., B.A., T.C.D., 215, Evelyn Street, Deptford, S.E.
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- 1896 †HOBSON, WILLIAM HENRY, M.R.C.S., L.S.A., 38, Leinster Gardens, Lancaster Gate, W.
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- F.F. †HOLLAND, EDMUND, M.D., M.R.C.P., F.R.C.S., *Physician to the Hospital for Women, Soho*, 1, Titchfield Terrace, North Gate, Regent's Park, N.W. C. 1893-5.
- 1895 †HOLLAND, E. C., M.B., C.M.Ed., "Airdrie," The Avenue, Kew Gardens, Surrey.
- L. 1885 HOOPER, JOHN WILLIAM DUNBAR, L.R.C.P. and S.Edin., *Surgeon to the Women's Hospital, Melbourne*, 54, Collins Street East, Melbourne.
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- 1895 †HOUCHIN, EDMUND KING, L.R.C.P. and S.Ed., L.S.A., *District Surgeon, Royal Maternity Charity of London, Deputy Coroner, East London Division*, Durham House, High Street, Stepney, E.
- 1898 HOWARD, ARTHUR WALTERS, M.R.C.S., L.R.C.P., Wealdstone, Harrow.
- F.F. †HOWELL, HORACE SYDNEY, M.D., F.R.C.S., East Grove House, 18, Boundary Road, South Hampstead, N.W. C. 1898-9.
- 1898 †HUNTER, SAMUEL ROGER, M.D., M.Ch., R.U.I., Lynher House, Clapham, S.W.
- 1887 HUTCHINSON, GEORGE WRIGHT, M.D.Aber., M.R.C.P.Edin., Chip-ping Norton, Oxon.
- F.F. †ISDELL, FITZGERALD, M.A., M.D.Dub., 189, Shaftesbury Avenue, W.C.
- F.F. JACKSON, THOMAS VINCENT, F.R.C.S. Edin., *Senior Surgeon to the Wolverhampton and Staffordshire General Hospital*, Whetstone House, Wolverhampton. C. 1884-6.
- 1895 JAMES, STANLAKE, L.R.C.P., M.R.C.S., Craig's Court, Simla, India.

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- 1894 †JARDINE, JAMES, M.B.Edin., C.M., 30, Sheen Road, Richmond, Surrey.
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- 1898 JELLETT, HENRY, M.D.Dub., M.R.C.P.I., 61, Lower Mount Street, Dublin.
- 1887 †JESSETT, FREDERICK BOWREMAN, F.R.C.S.Eng., *Surgeon to the Cancer Hospital, Brompton*, 23, Brook Street, w.  
C. 1891-2 & 1894-7. V.-P. 1898-9. Pres. 1893.
- L. 1885 JEWETT, CHARLES, M.D., 330, Clinton Avenue, Brooklyn, U.S.A.
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- 1894 \*JOHNSTONE, RALPH W., M.D., B.Ch., B.A.O.
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- F.F. †JONES, H. MACNAUGHTON, M.D., M.Ch. Q.U.I., M.A.O., F.R.C.S.I. and Edin., *late Examiner in Midwifery Royal University, Ireland, and Professor of Midwifery, Queen's College, Cork*, 141, Harley Street, w.  
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- 1895 †JONES, J., L.R.C.P., M.R.C.S., Claremont, Newlands Park, Sydenham, S.E.
- F.F. †JONES, LEWIS, M.D., M.R.C.S., Oakmead, Balham, S.W. C. 1894-6.
- 1893 †JORDAN, JOHN FURNEAUX, M.B., R.U.I., F.R.C.S.Eng., *Surgeon Women's Hospital, Birmingham*, 114, Edmund Street, Birmingham.  
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- 1885 JOUBERT, CHARLES HENRY, M.B.Lond., F.R.C.S.Eng., *Surgeon Lieut.-Colonel I.M.S., Professor of Midwifery and Obstetric Physician, Medical College, Calcutta*, 6, Harrington Street, Calcutta.
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- 1894 †KEITH, SKENE, M.B., C.M.Edin., F.R.C.S.E., 42, Charles Street, Berkeley Square, w.  
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- L. 1886 KING, ALBERT F. A., M.D., 1315, Mass. Avenue, N.W., Washington, D.C., U.S.A.
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- 1898 LANDAU, L., M.D., *Professor of Gynaecology of the University of Berlin*, Berlin.
- L. 1886 †LAWRIE, JAS. MCPHERSON, M.D., *Physician to the Weymouth Sanatorium*, Greenhill, Weymouth. C. 1894-6. V.-P. 1899.
- 1894 LEAHY, ALBERT WILLIAM DENIS, M.D.Durh., F.R.C.S., *Officiating Professor of Midwifery and Obstetric Physician Eden Hospital, Calcutta*, 6, Elysium Row, Calcutta.
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- 1898 \*LENNANE, GERALD QUIN, L.R.C.P. and S.I.
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- 1891 LLOYD, H. J., L.R.C.P.Edin., L.F.P.S.Glas., Tyncoed, Barmouth, North Wales.
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- 1895 †LONG, RICHARD PATRICK, L.F.P.S.Glas., L.S.A., 99, Queen's Crescent, Haverstock Hill, N.W.
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- 1895 †LUCY, WM. CUBITT, M.D.Aberd., M.R.C.S., Penrose House, Rosslyn Hill, Hampstead, N.W.
- 1894 LUTAUD, AUGUSTE, M.D.Paris, *Redacteur en Chef du Journal de Médecine de Paris; Médecin Adj. de l'Hôpital St. Lazare*, 47, Boulevard Haussmann, Paris.
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- 1899 LYLE, ROBERT PATTON RANKEN, B.A., M.D., B.Ch.Dub., Rotunda Hospital, Dublin.
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V.-P. 1887-8. Pres. 1889. C. 1890-2.
- L.1885 †MACAN, JAMESON JOHN, M.A., M.D.Cantab., M.R.C.S., Crossgates, Cheam, Surrey. C. 1895-7. V.-P. 1898-9. Editor, 1899.
- 1899 MCARDLE, JOHN STEPHEN, F.R.C.S.I., *Surgeon to St. Vincent's Hospital, 7, Upper Merrion Street, Dublin.*
- 1898 MACARTNEY, RICHARD, L.R.C.P. and S.Edin., St. Annals, Cinderford, Gloucestershire.
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- 1895 MACDONALD, JAMES, M.D.Ed., Bloxwich, Walsall, Staffs.
- 1898 †MACDONNELL, ALEXANDER, L.R.C.S.Ed. and L.S.A., 39, Stamford Hill, N.
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- 1897 MACGREGOR, PETER, F.R.C.S.Ed., Rashcliffe, Huddersfield.
- L.1889 MACKAY, W. A., M.D.Edin., F.R.C.S.Edin., Huelva, Spain.
- L.1888 †MACKINTOSH, G. D., L.R.C.P.I., L.M.Ed., Fairford House, Lower Kennington Lane, S.E.
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- 1897 †MACNAUGHTON-JONES, H. M., M.B., B.Ch., R.U.I., M.R.C.P., M.R.C.S., 141, Harley Street, W.
- 1894 MADDIN, JOHN WASLEY, Junr., M.D., Nashville, Tennessee, U.S.A.
- 1894 MANSEL, EDWARD L., M.B., C.M.Aber., The Caen, Ashted, Surrey.
- 1888 MANTON, WALTER PORTER, M.D., 32, Adams Avenue, W., Detroit, Mich., U.S.A.
- 1887 MARLEY, HENRY FREDERICK, M.R.C.S.E., L.R.C.P., L.S.A., L.M., The Nook, Padstow, Cornwall.
- 1895 MARTIN, CHARLES, M.B., C.M.Ed., Dagenham House, Newton Abbot, South Devon.
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- 1896 MATTICE, RICHARD ISA, M.D.McGill, L.R.C.P.Lond., Omaha, Nebraska, U.S.A.
- 1895 †MAY, EDWIN HOOPER, M.D. St. And., F.R.C.S., 14, Finsbury Circus, E.C., and Tottenham High Cross, Middlesex.
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- 1892 McMURTRY, L. S., M.D., 231, West Chestnut Street, Louisville, Kentucky, U.S.A.
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- 1891 MEEK, H., M.D., 331, Queen's Avenue, London, Ontario, Canada.
- 1887 MENDES DE LEON, M.A., M.D., Sarphati Straat, 1H, Amsterdam.  
C. 1892.
- L. 1886 MERRIMAN, HENRY P., M.D., 2239, Michigan Avenue, Chicago, U.S.A.
- 1896 METCALFE, JAMES, M.D.Brux., L.R.C.P. and S.Edin., *Surgeon to St. Catherine's Home for Cancer, Bradford*, 8, Heaton Grove, Bradford, Yorks.
- 1896 \*MICHELL, J., M.R.C.S., L.S.A.
- 1891 MICHIE, H., M.B.Aber., C.M., *Surgeon to the Samaritan Hospital*, 27, Regent Street, Nottingham.  
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- 1895 †MILLER, FREDK. R., M.D.Brux., L.R.C.P.Lond., 10, Bentinck Street, Welbeck Street, w.
- L. 1886 MILLER, DE LASKIE, M.D., *Professor of Obstetrics Rush Medical College*, 446, Chestnut Street, Chicago, U.S.A.
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- 1896 MORGAN, THOMAS HOWARD, M.D., F.R.C.S.Ed., Gympie, Queensland, Australia.
- 1887 MORISON, ALBERT EDWARD, M.B., C.M.Ed., F.R.C.S.Edin., Hartlepool.
- 1891 MORISON, J. RUTHERFORD, M.B., F.R.C.S., *Assistant-Surgeon Newcastle-on-Tyne Infirmary*, 14, Saville Row, Newcastle-on-Tyne.  
C. 1894-6.
- 1894 MORLAND, CHARLES HENRY DUNCAN, M.B., B.S.Durh., M.R.C.S., 5, Dumfries Place, Cardiff.
- 1898 †MORRIS, RICHARD JOHN, L.S.A., M.D.Heidelberg, Stockwell Villa, Clapham Road, s.w.
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C. 1889-90 and 1899.
- 1898 †MOSSE, HERBERT RYDING, M.D., M.R.C.S.Eng., Hobart House, Clapham Common, s.w.
- F.F. †MOULLIN, J. A. MANSELL, M.A., M.B.Oxon., M.R.C.P., *Physician to the Hospital for Women, Soho, Physician for Diseases of Women to the West London Hospital*, 69, Wimpole Street, w.  
C. 1884-6. Hon. Sec. 1887-8. V.-P. 1889-91. Libr. 1892. Treas. 1893-9.
- L. 1885 MUNDE, PAUL F., M.D., *Professor of Gynecology at the New York Polyclinic, and at Dartmouth College*, 20, West Forty-Fifth Street, New York, U.S.A.  
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- F.F. \*MURPHY, JAMES, M.A., M.D.Dub.
- 1896 MURRAY, CHAS. F. K., M.D., R.U.I., F.R.C.S., Kenilworth, Cape Town, S. Africa.
- 1885 MURRAY, ROBERT MILNE, M.A. St. And., M.B.Edin., F.R.C.P.Edin., F.R.S.E., *Assistant Physician Maternity Hospital; Lecturer on Midwifery and Gynaecology, Edinburgh School; Physician for Diseases of Women to the Western Dispensary*, 11, Chester Street, Edinburgh. C. 1886-8. V.-P. 1899.
- 1891 MURRAY, W., M.D., F.R.C.P., *Consulting Physician Newcastle-on-Tyne Hospital for Sick Children*, 9, Ellison Place, Newcastle-on-Tyne.
- F.F. MUTCH, F. ROBERTSON, M.D., C.M.Aberd., "Strathgairn," Goldsmith Street, Nottingham.
- 1891 NAPIER, A. D. LEITH, M.D., M.R.C.P.Lond., F.R.S.Edin., *late Physician Royal Maternity Charity of London; Examiner in Midwifery and Gynaecology, Apothecaries' Hall, General Hospital, Adelaide, South Australia.* C. 1892. Hon. Sec. 1893-4. Editor 1894-6. V.-P. 1895-7.
- 1889 †NAUMANN, J. C. FRANCIS, M.D.Bru., L.R.C.P.Lond., M.R.C.S. Eng., *Physician Italian Hospital*, 125, Gower Street, w.c.
- 1894 †NEATBY, EDWIN A., M.D.Bru., L.R.C.P.Lond., 19, Upper Wimpole Street, w.
- 1891 NEDWILL, COURTNEY, M.D., Christchurch, Canterbury, New Zealand.
- L. 1886 NELSON, DANIEL THURBER, M.D., 2400, Indiana Avenue, Chicago, U.S.A.
- L. F.F. †NETHERCLIFT, WILLIAM HENRY, F.R.C.S.Ed., Piccadilly Club, Piccadilly, w.
- L. F.F. NEUGEBAUER, FRANZ, M.D., *Directeur de l'Hôpital Evangelique, Leszno*, 33, Warsaw, Russia (Poland). V.-P. 1887-9.
- 1898 †NEVILLE, THOS., M.D., R.U.I., 123, Sloane Street, s.w.
- 1896 NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B.Camb., M.R.C.S., *Physician Accoucheur Bristol General Hospital*, Chandos Villa, Queen's Road, Clifton. C. 1898-9.
- 1898 NOBLE, CHARLES P., M.D.Maryland, 1637, Broad Street, Philadelphia, Pa., U.S.A.
- 1896 †O'BRYEN, JAMES WHEELER, M.D.Vermont, L.R.C.P. and S.Ed., Springfield Lodge, Sydenham, s.e.
- L. 1889 †O'CALLAGHAN, ROBERT, L.R.C.P., F.R.C.S.I., *late Surgeon Carlrow Infirmary and Surgeon Chelsea Hospital for Women*, 137, Harley Street, w. C. 1891-3.
- 1898 O'CONNOR, WILLIAM MOYLE, M.A., M.D.Dub., Lyndhurst, Cargate, Aldershot.
- 1885 O'DONNELL, THOMAS J., L.K.Q.C.P.I., L.M., L.R.C.S.I., *Surgeon Major Army, Oorgaum, Mysore State, India.*

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- 1898 O'HAGAN, PATRICK FRANCIS, L.R.C.P. & S.E., Tower House, London Road, Croydon.
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- 1895 †OLIVER, FRANKLIN HEWITT, L.R.C.P.Lond., L.S.A., *District Surgeon Royal Maternity Charity of London, and District Medical Officer City of London Lying-in Hospital*, 2, Kingsland Road, N.E.
- 1891 OLIVER, THOS., M.A., M.D., F.R.C.P., *Professor of Physiology University of Durham, Physician Newcastle-on-Tyne Infirmary*, 7, Ellison Place, Newcastle-on-Tyne. C. 1892-4.
- 1898 OPPENHEIMER, HEINRICH, M.D.Heidelberg, M.R.C.P.Lond., 63, Finsbury Pavement, E.C.
- L. 1889 OSTROM, H. J., M.D., 42, West 48th Street, New York, U.S.A.
- F.F. †PADMAN, JOHN, M.R.C.S.Eng., 22, Bloomsbury Square, W.C.
- L. 1888 PARKINSON, J. TAYLOR, M.D., Brook View, Crystal Brook, South Australia.
- 1898 †PARSONS, FREDERIC WILLIAM, L.R.C.P.Lond., M.R.C.S., L.S.A., 27, Lingfield Road, Wimbledon.
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- 1898 PEARSON, CHARLES YELVERTON, M.D., M.Ch., 1, Sidney Place, Cork. Hon. Local Secretary.
- 1897 PETCH, RICHARD, M.D.Lond., M.R.C.S., *Physician York County Hospital*, 73, Micklegate, York.
- 1891 PHILIPSON, Professor G. H., M.A., M.D.Cantab., D.C.L., F.R.C.P., *Professor of Medicine University of Durham, Senior Physician Newcastle-on-Tyne Infirmary*, 7, Eldon Square, Newcastle-on-Tyne.
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- 1898 †PILLOW, H., M.D., M.Ch., B.A.O., R.U.I., 1, Pembridge Gardens, W.
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- 1895 PLOWMAN, T. A. BARRETT, M.R.C.S., L.R.C.P., Greenway, North Curry, Taunton.
- L. 1885 POLK, WILLIAM M., M.D., *Ex-President New York Obstetrical Society, &c., &c.*, 7, East Thirty-Sixth Street, New York, U.S.A.
- 1886 †POPE, HARRY CAMPBELL, M.D.Lond., F.R.C.S., 280, Goldhawk Road, Shepherd's Bush, W. C. 1890-2.
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- 1898 PRINGLE, GEORGE LORAIN KERR, M.D., C.M. Ed., King's Square,  
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- L. F.F. PUREFOY, RICHARD DANCER, M.D., T.C.D., F.R.C.S.I., *Obstetric  
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- 1895 †PUTSEY, WILLIAM H., M.D. Dur., M.R.C.S., *Fleet Surgeon (retired)  
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- F.F. RAWLINGS, JOHN ADAMS, M.R.C.P. Edin., M.R.C.S. Eng., *Physician  
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- 1898 †REDFERN, JOHN J., M.D., M.A. O., *Surgeon to the Croydon General  
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- L. 1887 REED, CHARLES A. L., M.D., *Professor of Gynecology and Abdominal  
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- F.F. †RILEY, JAMES, L.R.C.P.Edin., M.R.C.S.Eng., L.M., L.S.A., 131, St. George's Road, South Belgravia, s.w.
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- 1897 ROBSON, HERBERT J., M.R.C.S. and L.R.C.P.Lond., 2, Hillary Place, Leeds.
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- L. 1885 ROSEBRUGH, JOHN WELLINGTON, M.D., Hamilton, Ont., Canada.
- L. 1888 ROSS, JAMES, F. W., M.D., C.M., L.R.C.P.Lond., *Professor of Gynæcology and Abdominal Surgery Ontario Medical Collège for Women, Gynæcologist to Toronto General Hospital, St. Michael Hospital, and St. John's Hospital for Women*, 481, Sherbourne Street, Toronto, Canada. Hon. Loc. Sec.
- 1898 †ROTHEROE, WILLIAM BURSLEM, L.R.C.P. and S.Ed., 47, Gloucester Place, w.
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- L. F.F. RUSSELL, LOGAN D. H., M.D., M.R.C.S., Government Park, St. Catherine, Jamaica.
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- 1895 SAMBON, LUIGI, M.D., 41, Via Palestro, Rome, Italy. Hon. Loc. Sec.
- 1892 †SCHACHT, F. F., M.D., B.A.Cantab., *late Physician to Out-Patients, Chelsea Hospital for Women*, 168, Earl's Court Road, s.w. Hon. Sec. 1893-6. Editor 1896-9. V.-P. 1897-9.

## Elected

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- 1898 SEALY, ROBERT BASS, L.R.C.S.I., Scarthbarry, Disley, Cheshire.
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- 1891 †SHAW-MACKENZIE, J. A., M.D.Lond., *late Physician to Out-Patients and Pathologist Chelsea Hospital for Women*, 31, Grosvenor Street, W. C. 1893-5.
- 1895 SIMEON, E. ARCHIBALD, L.R.C.P. and S.Ed., 350, Hoe Street, Walthamstow, Essex.
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- 1891 SMITH, J. W., M.D., Balgonie House, Ryton-on-Tyne, Durham.
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- 1895 †SMYTH, ALEXANDER CARSON, M.B., C.M.Ed., Lochiel, 16, Craven Park, Harlesden, N.W.
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- 1893 †SMYTH, JOHN WALKER, L.R.C.P. and S.Edin., 13, Colebrooke Row, City Road, N.
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- 1898 SPEARING, ANDREW, L.F.P.S.G., Glenarm House, Shaw, Lancs.
- 1898 SPROTT, WM. J., M.D., M.Ch., R.U.I., Beeston, Nottingham.
- 1889 STEKOULIS, CONSTANTIN, M.D., Péra, Rue Soulerazi 7, Constantinople.
- 1893 †STEPHEN, GEORGE CALDWELL, M.D., C.M.McGill, 54, Evelyn Gardens, South Kensington, S.W.
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- F.F. SWAIN, W. PAUL, F.R.C.S., *late Surgeon Royal Albert Hospital, Devonport*, 17, The Crescent, Plymouth. C. 1884-6.
- F.F. SWAYNE, JOSEPH GRIFFITHS, M.D.Lond., *Consulting Physician-Accoucheur Bristol General Hospital*, 74, Pembroke Road, Clifton, Bristol. V.-P. 1886-8.
- L. 1888 SWEETNAM, LESLIE MATTHEW, M.D., Toronto, Canada.
- L. F.F. TAIT, LAWSON, F.R.C.S., *Consulting Surgeon to the Birmingham and Midland Hospital for Women*, Peterbrook, King's Heath, Birmingham. V.-P. 1884-5. Pres. 1886. C. 1887-9.

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- L. F.F. TAYLER, WILLIAM HENRY, M.D. St. And., M.R.C.S.Eng., care of Dr. Gambier, Eversfield Hospital, West Hill, St. Leonards (travelling).
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- F.F. TEMPLE, THOMAS CAMERON, M.R.C.S., L.S.A., Sheffield, Beds.
- 1898 THOMAS, J. L., F.R.C.S.Eng., 28, Charles Street, and Even Lawn, Pen-y-Lan, Cardiff.
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- 1895 TREUB, HECTOR, M.D., *Professor of Obstetrics and Gynaecology University of Leyden*, Keizersgracht, 558, Amsterdam. V.-P. 1897-9.
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- L. 1889 TUOHY, JOHN FRANCIS, M.D., M.Ch., *Surgeon-Major I.M.S.*, Civil Surgeon, Saharanpur, N.W. Provinces, India.
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## Elected

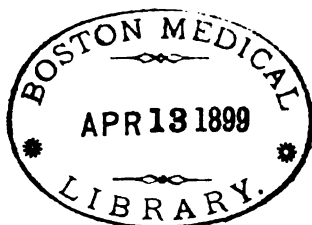
- L. 1889 WORRALL, RALPH, M.D., 20, College Street, Sydney, N.S.W.
- L. 1885 WYLIE, WALKER GILL, M.D., 28, West Fortieth Street, New York,  
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- 1898 YOUNG, H. C. TAYLOR, M.D., C.M., Sydney, New South Wales.
- 1891 YOUNG, MOFFAT, L.R.C.P., Victoria Road, West Hartlepool.
- 1897 YOUNG, W. MCGREGOR, M.B. & C.M. Glasg., 171, Woodhouse Lane,  
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- 1891 ZINCKE, GUSTAV, M.D., 13, Garfield Place, Cincinnati, U.S.A.







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# THE BRITISH GYNÆCOLOGICAL JOURNAL.

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VOL. XIV.—No. 53.

MAY, 1898.

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*THE BRITISH GYNÆCOLOGICAL SOCIETY.*

THURSDAY, FEBRUARY 10, 1898.

THE PRESIDENT, DR. MACNAUGHTON-JONES, IN THE CHAIR.

PRESENT : 90 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—T. Arthur Helme, M.D.Ed., Manchester ; E. Stanmore Bishop, F.R.C.S.Eng., Manchester ; John L. Thomas, F.R.C.S., Cardiff ; E. Doyen, M.D., Paris ; Professor Leopold Landau, M.D., Berlin ; Professor R. J. Kinkead, M.D., Galway ; Wm. A. Fogerty, M.D., Dublin ; Arnold C. Ingle, M.D.Cantab., Cambridge ; Edward A. Applebe, L.R.C.P.Ed., Winchester ; J. J. Redfern, M.D.Dub., Croydon ; Samuel R. Hunter, M.D., Clapham ; Sydney W. Cheetham, M.R.C.S., Forest Gate, E. ; M. J. Robinson, M.D., Canonbury ; A. Thomson Drake, M.B.Dub., New Cross ; Arthur Gale, M.R.C.S.Eng., Kingston Hill ; J. Chestnutt, L.R.C.S. & P.Ed., Howden, Yorks ; E. S. Forde, L.R.C.P. & S.Ed., Galloway ; Henry Pillow, M.D.Dub., London ; H. R. Mosse, M.D.Durh., Clapham Common ; R. J. Morris, M.D.Lond., Lancaster ; R. A. Clarke, L.R.C.S.I.,

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Teddington ; E. A. Baylor, M.D.Dub., Ash, Dover, Kent ; Alex. Macdonnell, L.R.C.S.Ed., London ; F. W. Parsons, M.R.C.S.Eng., Wimbledon ; W. H. Bagnell, L.R.C.P.Ed., Pau, France ; W. Donovan, L.R.C.P.E., Birmingham ; T. S. Floyd, M.D.Dub., Birkenhead ; W. Barter, M.D.Dub., London ; P. F. Barton, M.R.C.S., Wimbledon ; C. H. Hartt, L.R.C.P.I., Greenwich ; T. G. Emerson, M.D.Dub., Wantage ; P. Quinlivan, M.D.Dub., London.

The following gentlemen were proposed for election :—  
H. Johnson Hildige, L.R.C.P.I., Pinner ; Arthur W. Howard, M.R.C.S.Lond., Harrow ; C. Y. Pearson, M.D.Dub., Cork ; G. W. H. Cumming, M.R.C.S.Eng., Torquay ; Wm. J. Tidy, F.R.C.P.E., Clifton ; R. Macartney, L.R.C.P. & S.Ed., Cinderford, Gloucestershire ; Thos. F. Devane, L.R.C.S.Ed., London ; Leonard S. McManus, M.D.Dub., London ; Richard More Madden, L.R.C.P.I., London.

#### SPECIMENS.

Mr. F. BOWREMAN JESSETT showed the following specimens :—

#### CASE I.—CASE OF EXTRA-UTERINE FŒTATION. OPERATION—RECOVERY.

E. T., aged 33, was admitted to the Cancer Hospital under the care of Mr. Bowreman Jessett, on November 26, 1897. The history of the case is as follows :—

*Family History.*—Nil.

*Patient's Previous History.*—Has had very good health all her life. Been married fourteen years. Children, four [youngest child aged 2 years]. Miscarriages, two. [Last miscarriage five years ago.]

*History of Menstrual Periods.*—Commenced at between 15 and 16. Have been at regular intervals and quite normal. However, since March the periods have lasted five days. Copious show with severe pain. Has had menorrhagia during last three months. Period in October (the last before

admission) lasted only *two days*. Show at this time very scanty.

*History of Present Illness.*—Between six and seven months ago (June—July, 1897) first noticed a white discharge from vagina. It has never been offensive. Patient has been in pain at times but is free now on admission. During past month has lost flesh. Patient looks ill and is very anæmic.

On November 2, *hæmorrhage commenced* from uterus, it was of a “gushing” character and sometimes profuse, at others stopping suddenly. Has had *vomiting* during past month, this also has been profuse. Last Sunday in October (five weeks ago) had sudden fainting attack, followed by acute pain in abdomen which lasted one hour, noticed a few spots of blood on clothing. On the following Friday pain became severe again and patient took to her bed which she has kept up to time of admission.

*Present Condition.*—Patient looks very ill and is most anæmic. Patient says she has been suckling her child past eighteen months. There is *milk* in her breast at present time.

On examination of the abdomen there is a *round swelling*, which appears to be connected with the uterus, but patient keeps her muscles so contracted, examination of tumour cannot be truly diagnosed.

*Per vaginam.*—Cervix is very high up and can only just be reached with finger. It is patulous and admits tip of finger. Lateral fornices drawn up and out of reach. Uterus appears to be enlarged but at the same time movable. Examination painful, and finger is covered with blood and discharge, which is offensive.

*November 30, Operation.*—Operation performed without any great difficulty. On opening the abdomen the omentum was found to be firmly adherent to the uterus and tissue of pelvis, on detaching this a large blood clot was brought into view filling the pouch of Douglas; on removing this the end of the left broad ligament was seen to be enlarged and the tube dilated, evidently a tubal gestation, this was ligatured

and removed. The pelvis was washed out and a drainage tube inserted. Convalescence took place without a single bad symptom. Wound was dressed every four hours for first few days. The patient made an uninterrupted recovery and left hospital on January 10, 1898, for a home at Eastbourne.

**CASE II.—CASE OF CARCINOMA: UTERO-VAGINAL HYSTERECTOMY RESULTING IN RECOVERY.**

F. W., aged 49, was sent to Cancer Hospital under Mr. Jessett, by Dr. Aust Laurence of Bristol. Date of admission, January 15, 1898.

*Patient's History.*—Has had very fair health all her life. Been married twenty-six years. Has three children, youngest aged 20. Has had no miscarriages.

*History of Menstrual Periods.*—Commenced, aged 16. Never remembers being regular. Lately, *i.e.*, during past five months, periods have lasted eight to nine days, and patient has never been twelve days free between attacks.

*Present Condition.*—Patient is well nourished and not anæmic. No pain in abdomen. No tenderness in either iliac fossæ. Has a slight tendency to umbilical hernia. Patient has noticed a *discharge* from vagina past five months. She has had no pain.

*Per Vaginem.*—The cervix feels peculiar, its edges seem compressed from side to side, and the external os is brawny and bleeds readily on examination. The whole cervix is very *hard*. The uterus can just be felt bi-manually, it is slightly enlarged. Uterus very movable and favourable for removal through vagina.

January 18, 1898.—Vaginal hysterectomy performed. Patient made a good recovery.

**CASE III.—CASE OF FIBRO-MYOMA. DOUBLE OÖPHORECTOMY PERFORMED WITH NO BENEFICIAL RESULTS, FOLLOWED BY HYSTERECTOMY. RESULT RECOVERY.**

I. T., aged 37, was admitted to Cancer Hospital under the care of Mr. Jessett during the early part of 1897. She

was suffering from fibroid of uterus, and in March Mr. Jessett performed double oöphorectomy. Patient left hospital six weeks after.

On October 20 was admitted again as patient, still had severe hæmorrhages from time to time.

*History of Present Illness* (Oct.).—Patient says she felt relieved by operation for some short time after leaving the hospital, but during the third week of August had a severe flooding which lasted fourteen days. Had a second attack of hæmorrhage during first week of October and was advised by her private medical adviser to present herself at hospital.

*Present Condition*.—Abdominal muscles are kept contracted. Old incision perfectly healed. The growth does not seem to have diminished, and the previous operation so far in this case does not appear to have been beneficial. The uterus can be felt to be fairly enlarged and a large boss can be felt bulging towards the right iliac fossa. There is also much resistance here and some tenderness on palpation. The growth has evidently increased in size since March and on this account Mr. Jessett was contemplating its removal. However, on consultation, the majority of the staff advised postponing any further operative treatment for the present, as they imagined the growth might diminish.

Patient was just one month in hospital, and left on November 20. General condition much improved. No diminution of size of tumour. Is to attend as out-patient, and will be admitted at once if any bad hæmorrhage occurs.

This patient was again admitted on December 14, 1897, having had another severe hæmorrhage. Hypodermic injections of ergot deeply injected into gluteal muscles necessary. With the aid of these and rest in bed patient's general condition has improved, but condition was not satisfactory for operation until January 11 [*i.e.*, nearly one month after admission].

*Condition previous to Operation*.—Certainly the myoma is

smaller than on admission, but it is only fourteen days since last menstruation ceased. Last period lasted five weeks [from November 21 to December 27], and during this time the tumour was nearly half as large again. On previous examinations tumour was inclined to be on right side, but now it is more central.

*Per Vaginam.*—Cervix not so far up as expected and finger reaches it with ease. The fundus is anteverted, and above the uterus is a small fibroid which feels to be purely intra-mural ; uterus freely movable.

*January 11, Operation.*—Pan-hysterectomy was performed and patient made a good recovery.

#### CASE IV.—CASE OF FIBRO-MYOMA UTERI. OPERATION—DEATH.

M. F., aged 36, was admitted to hospital on December 1, under care of Mr. Jessett.

*Patient's History.*—Has never had any serious illness.

*History of Menstrual Periods.*—Commenced at age 13 ; at first was never regular, duration seven to eight days with pain for one to two days. Then discharge became profuse and pain disappeared. This condition lasted until 16 years of age. During these three years was under medical treatment. From the age of 16 until seven or eight months ago the periods have been practically normal, but noticed that just towards the end of this time the flow was becoming copious.

Practically it was *nine months ago* when hæmorrhage first became profuse, and since this time patient has noticed that the more recent periods are still increasing in amount and have lasted nine, ten, eleven, or twelve days. Date of end of last menstrual period November 24 ; this period lasted for ten days, and hæmorrhage was profuse.

Patient has never had any bleeding between periods.

Has noticed a vaginal discharge past two months ; it has only become offensive recently.

*Present Condition.*—The abdomen on inspection is peculiar. The tumour lies obliquely and to the left, the highest point in median line being just above umbilicus, rising to near costal angle on left side. Umbilicus prominent.

*Per Vaginam.*—Cervix drawn up and very nearly out of reach ; it is very soft. Uterus obliquity points to left side, evidently drawn over by mass which occupies the left half of abdomen. This mass moves with the uterus. Examination causes severe pain and patient will not permit a really thorough digital examination, keeping her diaphragm fixed and her abdominal muscles contracted.

*December 6, Operation.*—Unfortunately this ended fatally.

#### CASE V.—CASE OF CYSTIC SARCOMA OF OVARY.

##### OPERATION AND RECOVERY.

M. H., aged 53, was admitted to Cancer Hospital on November 8, 1897. History of case is as follows :—

*History of Menstrual Periods.*—Menstruation commenced at age of 11½. Periods used to last twelve to fourteen days. Quite regular, but during these times the pain was intense and lasted until the show appeared. Menstrual flow always relieved the patient of pain.

*History of Present Illness.*—Patient is unmarried and has been suffering as above until the age of 40. At this time menstruation ceased for five years. There was no cause for this, and patient during these five years enjoyed excellent health.

At age of 45 she suddenly had severe attacks of hæmorrhage, in fact, patient says she was scarcely free a whole week. At this time she also noticed a white discharge from vagina. The above conditions have lasted up to present time. Last severe hæmorrhage took place two months ago, but there was a slight show last week.

*Present Symptoms.*—Complains of severe pain in the back and is subject to neuralgia.



*Present Condition.*—The abdomen is well nourished, and on left side is a nævus.

*On Inspection* the left half of abdomen does not appear to move very freely on deep respiration. .

*On Palpation* a hard round lump can be distinctly felt through anterior abdominal wall, its situation being just to the left of the median line. Examination gives no pain.

*Per Vaginem.*—The cervix is soft, and if anything lower down vagina than usual. The edges of supra-vaginal portion of cervix are quite smooth. The normal arches of the fornices seem to be quite obliterated.

There is a mass which is evidently connected with the uterus extending into Douglas' pouch and across to left posterior quarter of pelvis. Bi-manually the uterus not felt.

*November 9.*—As patient is not easy to examine without an anæsthetic on account of rigidity of abdominal muscles she was placed under ether. It was found the patient was suffering from an ovarian tumour which was very mobile.

*November 16, Operation.*—The tumour was found to be a solid ovarian tumour with long pedicle. The pedicle was ligatured and the tumour removed.

From November 16, *i.e.*, the date of operation the patient made an uninterrupted recovery, in fact never had any bad symptom, a slight cough was troublesome for a time, but this was soon relieved by suitable medicines.

The pathologist's report on the specimen is that the growth is a cystic sarcoma of ovary.

Patient leaves hospital to-day, December 20, 1897.

The President, Dr. MACNAUGHTON-JONES, then read his Inaugural Address.

#### THE POSITION OF GYNÆCOLOGY TO-DAY.

GENTLEMEN,—Permit me, on taking the Chair of this Society, to express in a few words my appreciation of your confidence and goodwill as shown by your electing me to

fill it. The President of a society ought to be, for the time being, its representative head and the official exponent of its work. In proportion to the importance and value of that work, is the measure of the responsibility assumed by him, and correspondingly great the honour conferred on him by his selection as its President. I need hardly then say, that, knowing the work that the British Gynæcological Society has done, and is doing, and the large number of distinguished men abroad and in Great Britain or its Colonies to be found on its roll of Fellows, now numbering nearly 600, I fully realise my responsibility as inseparably associated with the honour you have conferred on me. For there can be no doubt of the truth of this statement: that to the British Gynæcological Society is mainly due the credit of developing and raising to its present standard the science and art of gynæcology in this country. It has been the principal force directing the evolution of the surgical side of the gynæcologist's art in Great Britain, a result which has largely followed from the happy co-operation of able workers in the four divisions of the kingdom, all labouring through the medium of this Society to a common end. *Honos cui honos*, and this Society may take to itself this credit—that in the transitional stage, from the older, cruder and now discredited methods, to the riper, and accepted teachings of to-day, it has ever been in the van, directing and encouraging the development of this branch of abdominal and pelvic surgery, in its gradual conversion from the colloid state in which it existed some few years ago, to its present more highly organised and crystalloid condition. Not that I would refrain from giving the full measure of praise to those bolder spirits, who, long before any Society such as this existed, fearlessly devoted themselves to the surgery of the generative organs of women. Foremost among such names are those of Clay, Spencer Wells, George Keith, and Lawson Tait; neither must we forget the classical teachings of Robert Barnes, and the valuable clinical work of Lombe Atthill.

No history of the growth of British gynæcology can be complete without the mention of these names; those of others are familiar to you. To us, their followers, the splendid achievements of such men as Keith and Wells seem all the more wonderful when viewed by the light of our modern improved facilities for operation, and the circumstances under which we operate. And while thus speaking of our indebtedness to these great forerunners of our art, every Fellow of this Society must admit how much British gynæcologists owe to their American and Continental *confrères*, whose brilliant operative feats, justified by their clinical successes and their wide and rich pathological researches, gave support and confidence to those who in this country were working against the stronger current of conservatism and caution inherent in the Anglo-Saxon temperament. Men naturally asked, if such successes could be achieved abroad, why British surgeons should not obtain in this department of surgery similar results. The Journal of this Society, from its inauguration fourteen years ago, is a history of the progress of the gynæcological art in Great Britain. One prominent characteristic of this Society has been the desire to encourage and recognise the development and progress of gynæcology, not in the metropolis alone, but throughout the United Kingdom. Your *Transactions* contain the records of the type of work, pathological, clinical, and operative done by your Fellows in the various provincial centres of the kingdom. And it is a pleasure and a pride for us in London to recognise that this Society has taken so active a part in the decentralisation of this labour, with the consequent greater diffusion of knowledge, and therefore gradual increase in reputation of British gynæcology generally. Personally, I am a firm believer in, and an ardent advocate for, such decentralisation, leading as it does to new schools of thought and increased number of foci for culture, larger and more disseminated fields for gaining experience, wider opportunities for practice, in short, to the creation of new centres, active, creative, independent,

destructive of monopoly and monopolising tendencies. So, we in London, confidently look to those centres to continue in the future, as in the past, to give us their active support, and infuse into our proceedings that interest and freshness which the presence of the provincial Fellows always secures.

Looking back some twenty years, since I delivered my first course of University lectures on gynæcology, apart from obstetrics proper, I can take a rapid mental survey of the extraordinary advance that this department of surgery has made during this time. There would be little profit in tracing this development. It is no exaggeration to say that these years have seen a new branch of surgery spring into existence.

Yet there are a few points on which it may not be unprofitable briefly to dwell. The advance of gynæcology has taken place on two distinct dual lines—the physiological and histological, the pathological and surgical. The first includes our better understanding of the physiological correlations of the uterus and its adnexa, the function of menstruation, the nervous influences at work in securing the evolution of this process; the primary and secondary reflected impulses and disturbances that follow upon its normal or abnormal performance; and the histological changes that occur both in the uterus and adnexa, necessitated by the rhythmic occurrence of the function of ovulation. We are also better acquainted with the correlation that exists between embryonic development and arrest of development in the generative organs, and the pathological conditions found in adult life. Take, for example, cystic conditions of the parovarium and vagina in their relation to Skene's and Gartner's ducts;<sup>1</sup> cysts, pedunculated and otherwise, of the meso-metrium, in their connection with the Wolffian duct and the Morgagnian cysts;<sup>2</sup> accessory Fallopian fimbriae, and their derivation from Kobelt's tubes;<sup>3</sup> dermoid

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<sup>1</sup> A. Routh, *Obstetrical Society Trans.*, 1894.

<sup>2</sup> Bland Sutton, *Surg. Dis.*, "Ovaries and Fallopian Tubes," 1896.

<sup>3</sup> Alban Doran, *Obstetrical Society Trans.*, vol. xxxi., 1889.

cysts of the oöphron ;<sup>1</sup> abnormal glandular conditions found in the cervix uteri and its epithelium, which bring about a condition which has been called by Fischel "congenital physiological ectropion," and the defect in the transformation of Muller's epithelium as a predisposing cause of pseudo ulceration in the cervix.<sup>2</sup>

It is, however, in the elucidation of histological changes which occur in the cortex and parenchyma of the ovaries that we perhaps chiefly realise the importance of the histological advance that has been made. Witness the tracing out of the processes which lead up to non-cystic and cystic ovaritis, and which assist also in differentiating, histologically, dropsy of the follicles from dropsy of the stroma, and the origin of hæmatocysts in the follicles, corpora lutea or stroma, as well as the part played by the stroma of the ovary in neoplastic formations, sclerotic and cirrhotic changes. In like manner a more accurate knowledge of the structures of the tubal walls, in the distribution and position of their muscular layers, their myxomatous connective tissue, and their vascular supplies, as well as the complicated arrangement of the mucous membrane, has led to a clearer understanding of the alterations which occur in catarrhal and interstitial forms of salpingitis, and the distinction between endosalpingitis of the parenchymatous and atrophic forms.<sup>3</sup>

The advance on the pathological side has been of too vast a nature to attempt to discuss it fully here. I may mention a few of the pathological gains which have followed from the laborious researches of pathologists, especially in the French and German clinics, viewed from the light of the clinical advantages which have resulted from these. There is the recognition of the various causes in the adnexa and uterus, which have led to a clearer differentiation of the secondary conditions, both in the uterus itself, and in the

<sup>1</sup> *Lib. cit.*

<sup>2</sup> "Traite Practique de Gynæcologie." Bonnet and Petit, 1894.

<sup>3</sup> Bonnet and Petit, *Lib. cit.*

adnexa, which follow in the wake of backward displacement and flexion of the uterus ; the division of chronic cervical endometritis into its various forms ; the pathological consequences of laceration of the cervix, and the more correct teaching on the subject of erosion, associated with glandular and follicular degeneration of the cervix. The sources of perimetric inflammations and pelvic suppuration are now clearly understood. The causes of pelvic hæmorrhages, whether those connected with pregnancy or otherwise, can be systematically defined and classified. We no longer speak of a mysterious hæmatocele, which includes any or every escape of blood in the pelvic basin. Gradually has the pathology of fibro-myomatous tumours of the uterus, both as regards the elements from which they grow, their mode of growth, as well as the influence brought about by pregnancy and the menopause upon their development, led up to their pathological, anatomical, and histological classification. The manner in which tuberculosis attacks the uterus, and the histological appearances which follow the tubercular infection, have been carefully described.

And now we come to that subject which has perhaps led to more contentious disputation than any other in the pathological field of gynæcology. I refer to the whole question of the histology and pathology of malignant degenerative changes and growths in the uterus and adnexa. Fortunately, the enormous amount of clinical material on the one hand, and all the microscopical research on the other, which has been brought to bear on the entire subject, has, for all practical purposes, settled certain vexed questions and determined the lines of treatment. Time will permit of but a bare reference to a few of the more important of these pathological points. Cancer, it has been shown, affects the body of the uterus much more frequently than it is supposed to do. The nature of the lymphatic supply, and the character of the lymph currents in the uterus explain this. Also it has been proved that cancer may originate in the connective tissue. We do not now permit

any "old-fashioned" views as to the limitation of carcinoma of the uterus to the cervix to influence us in pursuing old-womanly methods in dealing with a disease so destructive to human life. We know that cervical cancer does frequently invade the fundus, and though we may clinically distinguish carcinoma from epithelioma of the cervix, we do not permit clinical distinctions between cancrioid and carcinoma, and sarcoma, to influence our operative procedures. Scirrhus is comparatively rare as compared with the other forms of malignant growth. Malignant adenoma of the cervical glands is also extremely rare. Sarcoma, for all practical purposes, from a clinical point of view, has to be regarded in the same light as carcinoma, but the differentiation of the disease from cancer will always be a matter of considerable difficulty, resolved only by means of the microscope, the symptoms depending so much upon the situation of the growth, whether sub-mucous, or parenchymatous. It is now a settled fact that a fibro-myomatous tumour may change into a sarcomatous, and that the time of the menopause is the most likely for such a metamorphosis to occur.

For myself, I am not inclined to believe that simple erosions of the cervix degenerate into malignant conditions as often as by some they are said to. I am rather inclined to view the eroded malignant surface as the consequence of a pre-existing malignant change in the cervical glands. I regard a follicular degenerative state with accompanying engorgement of the cervical tissues, often met with in women over forty, as one of the most serious premonitory or predisposing signs of such malignancy. The part played by secondary epithelial formations which have been by some regarded as parasitic, is still a vexed question, but that cancer is spread by the lymph vessels is certain. There is the comforting reflection that there is not the same rapidity of dissemination in the case of the uterus as in the mammary gland, and the involvement of other organs is comparatively rare. The danger of confusing fungous endometritis, which

is not of a malignant nature, with fungous growths, which are, and the risk of the same error being committed in the instance of hæmorrhagic endometritis, and the importance of a careful microscopic test after curettage, are widely recognised and acted upon.

The most important recent addition to the pathology of uterine malignant disease is, the description of the decidual degeneration included under the head of "deciduoma malignum." I confess myself a convert to this view, that the pathological changes, as shown by the microscope in the characteristic giant cells, the indeterminate diffusion of small round sarcoma cells, and the neoplastic tissue elements are characteristic of these decidual growths, though it is probable that a simple sarcoma may occasionally be classed as being of the former type. Meyer and Sanger, in Europe, and Whitridge Williams, in America, were the earliest observers of this condition.<sup>1</sup>

Turning to the ovaries, we find that in addition to the important investigations into the pathology of ovarian cystoma, the nature and development of such cysts are understood, as are the consequence of their rotation and the causes of their suppuration. The rarer forms of disease, fibroma, myoma, sarcoma, endothelioma, papilloma, gyroma, and angiosarcoma of the ovaries, have been recognised, laboriously investigated, and described. Further, the clinical signs and symptoms of these diseases have been recorded.

It is due to Dr. Mary Dixon Jones, of Brooklyn, to acknowledge the admirable original work she has done in the field of pathology. Her researches into the nature of endothelioma of the ovaries, sarcoma, and the origin of cancer in the connective tissue have been of the highest order.

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<sup>1</sup> Sanger, *Central fur Gyn.*, Bd. xiii. 1889. "Verhandl. des Deutschen fur Gyn." *Arch. fur Gyn.*, Band lxiv. Meyer, *Arch. fur Gyn.*, Band xxxiii. Whitridge Williams, *Arch. fur Gyn.*, 1888, xxxiii., 53. (For Bibliography, see "Diseases of Women, and Uterine Therapeutics," Author, 7th Ed. p. 511.)



The cystic degenerations in ovaritis, whether as affecting the follicles or the stroma, are among the most interesting of the pathological developments. This applies to hydro-cystic, hæmato-cystic or apoplectiform and pyo-cystic ovaritis. It would be unjust here if I did not mention the names of Bland Sutton and Alban Doran, of this country; Nagel, Gusserow, Olshausen and Petit, abroad, for the work they have done in the elucidation of these diseases.

Nowhere has the progress of pathological gynæcology been more marked than in the instance of the Fallopian tubes. This progress has brought us a complete systematic classification of the diseases of these structures, acquaintance with the nature and consequences of their bacteriological invasion by pathogenic and non-pathogenic organisms, the far-reaching gonorrhœal infection, the effects of closure of the Fallopian ostia. The correlations between metritis, perimetritis, salpingitis and ovaritis in their causation and consequences have led to a clearer understanding of the development and course of pelvic suppurations generally, and enforced the need for early interference. Perhaps the most practical issues have resulted from the pathological evidences which prove that the conditions, metritis, perimetritis, and salpingitis, are frequently correlated or consequent upon each other, and are associated and concurrent. The entire pathology of salpingitis has so advanced as to enable us to co-ordinate and differentiate the varieties of tubal inflammation, depending upon the anatomical location of the inflammation, whether on the mucous lining, as in endosalpingitis, in the mucous and muscular layers, as in parenchymatous salpingitis, or mainly in connective tissue development, leading to the obliteration of the muscular tissue and vessels, as in chronic atrophic salpingitis.

The relation of hydro-salpinx to a salpingitis arrested in its serous stage, and the pathological differences between ordinary hæmato-salpinx, and tubal apoplexy, and hæmato-cystic hæmorrhage, have come to be understood, while the causation of pyosalpinx, and its secondary conse-

quences in adhesions or rupture, have been demonstrated through a mass of pathological evidence. Tubercle of the Fallopian tube is known to be of more frequent occurrence than was suspected, and the interesting fact, emphasised by Alban Doran, has to be remembered—that tubercle of the adnexa in young persons and virgins is not so uncommon a cause of obstinate and prolonged uterine vaginal discharges. It is accompanied by local lesions, such as erosion of the uterus and enlarged and painful ovaries. Papilloma and primary carcinoma of the Fallopian tube may be said to be very rare conditions, and William Russell, of the Johns Hopkins Hospital, has published a case of an enfarcted hydatid, in which the pedicle of the cyst was rotated, and the tube twisted, the result being an enfarcted Fallopian tube, associated with a serous cyst.<sup>1</sup> It would be superfluous to refer here to the increase of our knowledge with regard to the whole subject of tubal pregnancy, for some of the most valuable of all the communications which have appeared on this subject, dealing with the etiology, pathology, and treatment of ectopic gestation, have been contributed from time to time by Fellows of this Society, not the least important being that one recently read by our late President, Mr. Mayo Robson. Without entering into certain controversial points, we now know how difficult it is in some instances to pronounce between some cases of tubal apoplexy and intra-ligamentary hæmorrhage, resulting in broad ligament blood sacs and tubal distensions of blood, in short, cases of hæmato-cystic hæmorrhage and ectopic gestation in which no mole can be discovered. But I must not delay over this interesting subject, and only remark in regard to it, that both the pathology and clinical history of ectopic gestation converge to this practical teaching—that when we are convinced that a woman is suffering from a tubal or broad ligament pregnancy, operation should be resorted to without delay. In regard to all this pathological

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<sup>1</sup> Johns Hopkins Hospital Bulletin, 1894, p. 12.

and clinical advance, it is only common justice to mention in connection with it in this country the names of Lawson Tait, Alban Doran, Bland Sutton, and Cullingworth.

Nor, if time permitted, would it be difficult to show that in regard to the urinary organs, as well as the external organs of generation, important pathological advances have been made. Let me give a few examples of this in the case of the latter. Light has been thrown on the pathology of vaginismus and its causation, different tumours of the clitoris have been described, the various forms of pruritus have been pathologically differentiated. J. C. Webster in this country, and Sanger abroad—the former by his researches into the nervous nature of the disease, the latter by analysing its endogenous and exogenous causes, and by his advocacy of operation in obstinate cases by removal of the labia and clitoris (a step which has been followed with success by many other distinguished surgeons), have done valuable service. The important affection—abscess in the urethrovaginal septum—has been, both as regards its etiology and pathology, carefully described by Cullen. The relation between it and cystic glandular, lacunar, and diverticular conditions, derived from either the remains of Gartner's ducts in the vaginal septum, abnormal states of Skene's tubules within the urethral orifice, arrested urethral concretions, or traumatisms occurring during delivery have been demonstrated. The abscess sac varies both as to the nature of its walls and the character of its contents.

Much as I may desire, I cannot delay to refer to many other interesting pathological advances that have been made in regard to the external organs of generation, but before summarising a few of the more important of the recent operative improvements in gynaecology, I must just briefly draw your attention to the assistance we have received at the hands of the bacteriologists in tracing out the influence of germs in determining the character and progress of certain diseases. These influences have been clearly traced out in the case of puerperal septic processes, which are

originated by pathogenic organisms, pyogenes, and saprophytes, these being associated with purulent discharges, in which streptococcus and staphylococcus are discovered. The merismopedia gonorrhœa, the gonococcus of gonorrhœa, is frequently found in inflammations of the endometrium and adnexa, and the tubercle bacillus in tubercular inflammation, both of the uterus and tubes.<sup>1</sup> Laplace's experiments in Koch's laboratory have shown that in the normal endometrium of the uterus are numbers of micro-organisms, some of which have poisonous effects on guinea-pigs, and which are enormously increased in inflammatory states, while in chronic endometritis infectious organisms are found, frequently gonorrhœal, invading both the epithelium and fibrous tissue. The method of invasion in enormous quantities by micro-organisms of the endometrium and subjacent tissues, and their subsequent development in these, as well as the secondary production of irritants and ptomaines, consequent upon serum decomposition, and the resulting tissue metamorphosis, are now clearly comprehended. The rational treatment by curettage has followed. Such curettage results in the formation of a new endometrium, free from pathogenic organisms, and normal in character, within a period of from eight to ten weeks. But it must be remembered that Hartman,<sup>2</sup> Morax, and Schmidt have shown that acute aseptic peritonitis may occur, and no micro-organisms be discovered in the sero-fibrinous exudation. This also is true of simple inflammatory conditions of the adnexa, though in by far the larger number of cases of pyosalpinx, streptococci and gonococci are found, as well as the bacterium coli, the staphylococcus, the bacillus of tubercle, and the cladothrix of actinomycosis.

Not without interest, as bearing on the subject of microbial infection, are the investigations of Stroganoff,

<sup>1</sup> *Amer. Jour. Med. Sci.*, Oct., 1892.

<sup>2</sup> "*Anal. Gynæcol.*," xlv., p. 193, 1894 ; Schmidt's "*Jahrbücher*," Band 244, 1894 ; *Rev. de Chir.*, p. 343, 1894.

Gow, and Willis, which tend to show that in the vaginal normal mucous are non-pathogenic microbes which are hostile to the pathogenic species, and that these latter in the natural and healthy state do not exist in the cervix uteri. Hence the cervical secretion containing the bacilli vaginæ is distinctly protective. Lastly, it has been proved abundantly by pathological investigations at the hands of the ablest observers in different parts of the world, that foremost amongst the different causes of death after operations on the pelvic organs, abdominal and vaginal, exceeding by far numerically all immediate or secondary consequences arising from operative shock, is septic infection originating in some part of the operated tract, and that this infection is due to septic organisms which have been either introduced through carelessness before, during, or after operation. Perhaps there is no more serious reflection for the operating gynæcologist than that which this last fact enforces. The predisposing influences of an exhausted vitality, and of shock, in producing septic conditions it is well to remember. The question has not without reason been raised, "Is not impending death often the forerunner of septicæmia, rather than septicæmia the cause of death?"

When I leave these histological and pathological considerations, and approach the subject of operative gynæcology, and try to answer the question:—"What is the position of the gynæcological surgeon of to-day as compared with one of ten years since?" I feel that the time at my disposal is utterly inadequate for a sufficient reply to it. Two inestimable gifts, both having their origin in the sister science of chemistry, have enabled the surgeon of to-day to attempt and successfully carry out those feats of abdominal and pelvic surgery, of which he is naturally proud. But he must remember that without anæsthesia and asepsis his methods would be impossible, and his results very different to what they are. The most brilliant manipulator alive must feel that he can never repay the

anæsthetist for his coolness and skill, qualities which in many of the prolonged operations in abdominal surgery are tested to the utmost.

On the other hand, none have brought the antiseptic and aseptic methods to greater degree of perfection than the gynæcologists. Anæsthesia enables us to perform, antiseptis and aseptis to reap the full reward of our labour. The dual gospel of antiseptis and aseptis, taught not in parables but by demonstration, made straight the path for the gynæcology of to-day.

Before, even in some imperfect way, endeavouring to group together a few of the most brilliant of the operative procedures at present practised, I wish to make one or two remarks on the part that has been played by conservative gynæcologists in the evolution of the surgery of their art. Proud of achievements, fascinated by successes, emboldened by dexterity, encouraged by results, and flattered by congratulations, there is a great danger of enthusiasm overstepping judgment, and impulse substituting reflection. As human nature furnishes to the ranks of our profession, as to every other calling, a certain proportion of those whom Ruskin calls "the fee-first men," another possible influence, tending to turn the balance in favour of operation, cannot be omitted. All honour to those, then, who, during the leaps and bounds with which the surgery of the pelvic organs of women has advanced, have acted as a modifying and restraining force on others whose ingenuity, dexterity, and enthusiasm may have prompted them to an excess of zeal. There has possibly been a natural, but none the less unworthy, tendency to explain the scepticism and caution of some gynæcologists as being due to a jealousy on their part, arising out of an inability to do that which bolder spirits ventured, and with success, to accomplish. This may have been so in many instances. Timidity and incompetence are often cloaked by an assumption of virtuous philanthropy. There is nothing easier than a simulation of indignation, and the imputation of motives, when we

wish to denounce another for that which we cannot do ourselves. While, however, this is so, I think that the most unbiassed and impartial observers of the evolution of uterine surgery must admit the incalculable service which has been rendered to it by the vigorous criticisms—nay, even the hostile denunciations—of independent and honest opponents. I think that one of the results of such criticism is to be seen in the various conservative steps which later years have developed in the endeavour to isolate and preserve partially disordered organs and healthy parts, so as to secure to the woman, when possible, the permanent discharge of her generative functions. Such conservative surgery is best seen in salpingostomy, an operation which we owe to Skutch, of Jena; salpingorrhaphy, with which the names of Pozzi and Martin are associated; resection of the ovaries, which Polk, Martin, and Pozzi have been amongst the earliest to advocate. In the operation of curettage, properly performed, we have one of the most conservative of all modern uterine operations, and in that of colpotomy, with ablation of the cervix, and resection of the exposed and cystic ovaries, as performed by A. Martin, we recall another procedure, anticipatory of more serious uterine disease, yet conservative of the adnexa.

In the treatment of pelvic suppuration, by drainage through the abdominal or vaginal wall and other conservative operative treatment; in the control of uterine hæmorrhage from fibro-myomata, by ligature of the uterine arteries, as proposed by Robinson and Martin, of Chicago; in myomectomy and in the various procedures that are included under the general head of electric therapeutics, and in connection with which the names of Cutter, Tripiier, Apostoli, and Keith are so familiar, we have proofs of the desire to afford relief and safety to the woman without resort to extreme and radical measures.

Without quoting the exact dicta of various eminent gynaecologists, French, German, American, and British, I can safely here assert, that the consensus of opinion of all

may thus be expressed: that the adnexa should not be totally removed from any woman, single or married, within the generative epoch of her life, unless there be present in some portion of them disease of such a nature as to render it a source of danger to her life, or to make her miserable, and to be of so extensive or irremediable a nature as to make it impossible to remove the disease without mutilating the woman.

So far as this Society is concerned, there has been no champion of the conservative surgery of the adnexa more persistent and consistent in the advocacy of the motto *festina lente* in the surgery of the adnexa than Dr. Charles Routh.

What then are the most solid and permanent advances made in the operative field of gynæcology within the last few years? I will name only a few of the most prominent. And first, I would refer to that group of operative procedures for raising and fixing the uterus in cases of backward displacement. The name of a distinguished Fellow of this Society will always be associated with the operation of permanent replacement of the uterus by the shortening of its round ligaments, namely, Dr. Alexander, of Liverpool. Though the technique of the operation has been varied by different operators, such as Kocher of Berne, Parker of Chicago, and Mundé of New York, and others, still the principle is the same. "Alexander's operation" has been now performed many thousand times, and has still its warm advocates both on the Continent and in America, as also in this country. It must be acknowledged that there is something to be said for the objections of its opponents: the tendency to recurrence, and chances of failure, and the more remote possibility of hernia. Much must depend on the degree of retroversion, the presence of other complications, and the existence of adhesions. As an alternative step between the wearing of a support, and hysterorrhaphy in suitable cases, it has its obvious advantages. Next,<sup>1</sup> we

<sup>1</sup> *Journal Amer. Med. Ass.*, December 21, 1895.



have Howard Kelley's operation of "suspension of the uterus," by stitching its posterior face below the fundus to the peritoneum and sub-peritoneal fascia. Here we have the advantage of being able to remove the tubes and ovaries, if diseased, at the same time as the suspension is affected. There is the indirect fixation of Koeberlé, the operation of "direct lateral fixation" of the uterine body (the sutures of *crin de Florence* being carried through the borders of the uterus), and the operation of direct mesial fixation of the fundus (as performed by Leopold and Czerny), in which the latter is fixed to the abdominal wall, the uterine tissue being penetrated anteriorly. In these operations there is the advantage of the avoidance of buried sutures. Czerny does not, however, include the integument in his operation. Terrier also avoids the subcutaneous tissue and skin. Pozzi fixes the fundus of the uterus to the abdominal walls, in a spiral manner, also avoiding the skin and subcutaneous fascia. An ingenious modification of Olshausen's and Sanger's operation was brought before this Society by the late and present Editors of our Journal, a few years since. Next, we have the different methods of vagino-fixation as practised by Mackenrodt and others. In Mackenrodt's operation the posterior surface of the bladder is stitched to the front of the uterus. There is also the operation performed with such success by our honorary Fellow, Martin, of Berlin, in which, by colpotomy, the uterus, having been drawn forward, and the adnexa, if diseased, resected or removed, the former is fixed to the vagina, the peritoneum and the mesian incision into the vagina being accurately closed. This is a typically perfect operation, and of its kind associated with the least risk. And, lastly, there is the extra-peritoneal vagino-fixation of Müller, the technique of which has been so admirably described in the Journal of the Society by Mr. Edge.<sup>1</sup>

Reviewing these operations, the first remark which has

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<sup>1</sup> BRITISH GYNÆCOLOGICAL JOURNAL, August, 1896.

to be made is, that a large number of cases of retroversion of the uterus, with or without flexion, may be cured, with patience, by manipulation, properly applied supports, and attention to the postural cure. And I think, in most cases, such methods should be tried before resorting to any operation. But much must depend, not only upon the position in life of the patient, but upon other circumstances and surroundings of the case. The risks of operation are so slight, and the advantages of successful interference so great, that we are more and more coming to the abandonment of pessaries, and the resort to operation. Of Alexander's operation there is this to be said in its favour: there is the avoidance of the risk of miscarriage, and of interference with labour. In choosing between all the others, I am inclined to select, of the abdominal methods, Howard Kelly's suspension and Martin's vagino-fixation.<sup>1</sup>

We pass by, as there is not time to refer to them, the various ingenious operations for the cure of deficient or absent perineum, for cystocele and rectocele, ascribing, however, that meed of praise, which is his due, to Mr. Tait for his colpo-perineo-plastic operation. The operations of Reamy, Doléris, and Martin are also largely practised. With regard to the radical measure of extirpation of the uterus and colporrhaphy for total prolapse, I will only say that, in my opinion, colporrhaphy and abdominal fixation of the uterus should be first tried before resort is made to so radical a step. The direct danger seems to me to be greater to the patient than the consequences of the condition it is carried out to relieve. One of the first prohibitory axioms of surgery is violated.

Another great advance has been made in the treatment of pelvic suppurations by operative interference. It is still a vexed question as to the best method of reaching and removing the diseased adnexa, whether by the abdominal or vaginal way, that is, by celio or vagino-salpingo-

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<sup>1</sup> BRITISH GYNÆCOLOGICAL JOURNAL, February, 1897.

oöphorectomy. Péan, Second, Doyen, and E. Landau are advocates for the operation through the vagina, and Polk, Delageniere, Schauta, Bardenhauer, Kelly, and Sanger practise the radical abdominal operation, the two latter combining it with supra-vaginal hysterectomy. Professor E. Landau performs an abdomino-vaginal complete radical operation. The drainage in these cases may be maintained either from Douglas through the abdominal wound, or by the vagina. The important point to note here is, that all these surgeons whose accumulated experiences lend to their opinions the greatest weight, are agreed upon the necessity for radical operative measures where we have formidable suppurative states of the adnexa. The extent and magnitude of the operations must always depend upon the features of the individual case, and the same remark applies to the method and technique of the operation, whether vaginal, abdominal or combined. While this address was being written, the renowned Péan passed away. Few names are there which commanded so wide admiration, none was better known than his.

We now turn to another branch of uterine surgery, namely, that of uterine fibromata. The magnitude of the subject, both in regard to its gradual evolution, the development of the different methods of performing hysterectomy and pan-hysterectomy, and the clinical correlations which must influence an operator in selecting this or that method, would almost incline one to pass it over in silence in such an address as this. Last year, in the *Journal of the Society*, Dr. Charles Noble, of John Hopkins Hospital, contributed a most complete survey of the progressive development of hysterectomy in all its methods. Still, we have distinguished advocates of extra-peritoneal-celio-hysterectomy after Hegar's method, with different modes of treating the pedicle, and equally distinguished surgeons pursuing the intra-peritoneal-celio-hysterectomy of Schroeder, with different ways of treating the pedicle and the uterine cavity if opened. Then we have the cœlio-vaginal-pan-hysterectomy of Barden-

hauer and Martin, Doyen's celio-vaginal-hysterectomy (the former rely upon ligature, and the latter up to a recent period employed the clamp for the arrest of hæmorrhage), Jessett's pan-hysterectomy, which is also a celio-vaginal ligature operation, performed by the aid of his bivalve obturator. Then there are the methods of Zweifel and Baer, which are both intra-peritoneal methods, and the mixed method of Wolffer-Hacker and Sanger, in which the pedicle, covered with peritoneum, is attached to the abdominal wall, and the latter closed, with or without drainage. For special cases there are the operations of myomectomy, morcellement, and decortication, the last being specially applicable to tumours of the broad ligaments. There is also LeBec's cœlio-vaginal operation, described at the British Medical Association meeting of 1896, which he advocated for those difficult cases of fibroma complicating cancer. The operation of salpingo-oöphorectomy stands by itself as an alternative step in the treatment of fibromyomata of a certain size and character.

The last great advance in hysterectomy has certainly been made by Doyen in his cœlio-vaginal-pan-hysterectomy, in which no hæmostatic forceps or clamps are employed, the uterus being delivered without any hæmostasis by clamp, the thumb and fingers of the assistant and surgeon being used to control the vascular connections, and the various vessels being finally secured with ligatures. A description of the entire technique of this brilliant operative procedure will be found in Doyen's *Technique Chirurgicale*, recently published<sup>1</sup> (*vide* review, p. 133).

The following are, I think, the more settled points with regard to the surgery of myo-fibromata. The use of the *serre-nœud* and clamp is becoming a thing of the past. Each variety of tumour may present in its individual features a special method of operation, adapted to its peculiar and inherent difficulties in removal. No hard and fast line can

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<sup>1</sup> *Technique Chirurgicale*, E. Doyen, Paris, 1897.

be drawn, nor, in reality, can any rule sufficiently broad be fixed for the removal of fibromata of the uterus and adnexa. The condition of the patient, the experience and relative dexterity of the operator, the size, position, and complications of the growth, are so many determining forces acting on the mind of the surgeon, free from the influence of fads and bias, which will determine him to adopt that line of procedure most calculated to save the life of his patient. In the cases suitable for it I cannot conceive a more perfect operation than a well-executed intra-peritoneal hysterectomy. In leaving this subject of myomata, it would be an injustice in any address to omit mentioning the splendid manipulative work which has been done in this field in this country by Keith, Lawson Tait, Bantock, Heywood Smith, Taylor, of Birmingham, the late Greig Smith, and others.

Turning now, for one moment, to the surgery of cancer of the uterus, let me summarise in a few sentences the conclusions which, it appears to me, have been arrived at by the majority of modern gynæcologists. Cancer once determined upon in any part of the uterus, when operation is feasible, is best treated by hysterectomy. The vaginal method offers for the great majority of cases the safest and best method of removal. The celio-vaginal method may have to be adopted in certain cases complicating tumour, from the large size of the latter. The operator has his choice of methods. The clamp procedures of Péan, Doyen, and Landau, or the ligature, as practised by such men as Martin and Olshausen, most of our English surgeons, and the American school. In Ireland both the clamp and the ligature are used. Much has been said of hysterectomy or pan-hysterectomy. Surely the choice will depend upon the extent and spread of the disease. Nothing I have said here is to be taken as depreciating the many other valuable modes of treatment for cancer or sarcoma where operation is not feasible.

The surgery of ectopic gestation may almost be condensed into a sentence. Operation is the treatment when

once it is determined that tubal or broad ligament pregnancy is present. This I believe to be alike the safest action for the surgeon to follow, as it is, on every ground, the practice most likely to save the life of the woman.

Appertaining as much to general surgery as to gynæcology, are all the modern advances in the treatment of renal diseases, but it would be an incomplete sketch of this subject if no reference were made to the ingenious methods of Howard Kelly of catheterisation and exploration of the ureters, and the surgical treatment of hydro-ureter and pyoureter, stricture, impacted calculus and fistula, together with his operations of ureterotomy and uretero-ureterostomy.

I have thus endeavoured, though most imperfectly, to dot out over the gynæcological map the main out-posts, as well as the settled positions occupied by the surgeons of to-day. Could we but take up a corresponding map of ten years since, how great would be the difference, how many the blanks, now well covered by the reports of successful investigations and solid progress. Were we to go still further back, and examine that same area of the year 1878, we should find no well-defined landmarks, no very solid acquisitions in the regions of abdominal and pelvic surgery, with the exception of ovariectomy. Since then the delimitations of the frontier have been drawn (not but that occasionally gynæcologists make raids into the hinterland), and we stand to-day in an unassailable position, holding, yet still cultivating and developing, one of the most important departments of the surgical art.

Mr. F. BOWREMAN JESSETT said that they had just heard an address, one of the most classical that they had had before the Society. The range of subjects was considerable. They had been conducted from the clitoris to the fimbriated extremities of the tubes, via the vagina and uterus and parts surrounding them, and they had even travelled up as far as the kidney. They had also been conducted all over the world, including America, the Continent, and Japan; and indeed the address might be looked upon as an epitome of

gynæcology, including pathology and treatment. He thought they could not do better than pass a hearty vote of thanks, which he would move in the following terms: "That the best thanks of this meeting be given to the President for his interesting address, and that he be requested to allow it to be printed in the Journal of the Society." He would like to add one word about country members. It was important that in a Society which was "British" the country members should be encouraged to bring their work before the meetings. They had a large area, often larger than that of the London Fellows, and their papers and specimens were always looked forward to with interest.

Dr. W. ARMSTRONG (Buxton) said that the courtesy, energy, and enthusiasm of their President had been long known to them, and they had now had an example of his wide knowledge of gynæcological progress both English and foreign. It was a notable fact that Dr. Macnaughton-Jones had made his mark in other branches of knowledge besides gynæcology; and this was a guarantee that he would not lead the Society into those narrow grooves and ruts which were the bugbear of a Society of specialists. He had much pleasure in seconding Mr. Jessett's motion.

Mr. JESSETT put the motion to the meeting, which received it with enthusiasm.

The PRESIDENT thanked the Fellows for their vote of thanks, carried so unanimously and cordially. He had, perhaps, characteristically of his nationality, omitted to state the title of his address, which was "The Position of Gynæcology To-day," thus indeed travelling over a considerable area. But he had done his best to exaggerate nothing, and to claim no more for the Society as a pioneer of modern gynæcology, than was its due. One other omission in his address he wished to rectify, by pointing out the important share in this progress which was due to one of their own Fellows, who was one of the principal founders of the British Gynæcological Society, Dr. Heywood Smith.

CONVERSAZIONE.

At the close of the Ordinary Meeting of the Society on February 10, a conversazione to the Fellows was given by the President, Dr. Macnaughton-Jones. The gathering was a large and representative one, over one hundred Fellows and visitors being present.

On the stroke of ten, the Ordinary Meeting adjourned ; the rows of chairs were cleared away, and the President and Secretaries on the platform retired in favour of *Ashton's Croatian Orchestra*. Throughout the evening the following enjoyable programme of music was listened to :—

ASHTON'S CROATIAN ORCHESTRA.

1.	MARCH	...	...	"Hoch Hapsburg"	...	...	<i>Kral.</i>
2.	WALTZ	...	...	"Adriatic"	...	...	<i>Brosch.</i>
3.	FANTASIE	...	...	"Ein Nacht in Wein"	...	...	<i>Meyer.</i>
4.	CZARDAS W.	...	...	...	...	...	<i>Brahms.</i>
5.	WALTZ	...	...	"Na obali Savé"	...	...	<i>Brosch.</i>
6.	DESCRIPTIVE	...	...	"My Dream"	...	...	<i>Brosch.</i>
7.	DANCE (Croatian)	...	...	"Kolo"	...	...	<i>Kuhac.</i>
8.	POLKA	...	...	"Von Herzen zum Hergen"	...	...	<i>Zichner.</i>
9.	POT POURI	...	...	"Opernschatz"	...	...	<i>Schmidt.</i>
10.	WALTZ	...	...	"Lustige Brüder"	...	...	<i>Wallsvedt.</i>
11.	POLKA	...	...	"Ambos"	...	...	<i>Redlick.</i>
12.	MARCH (Croatian)	...	...	"Sloga"	...	...	<i>Klemenic.</i>

In the intervals of orchestral music Mr. M. B. Spurr, of the Egyptian Hall, gave several humourous recitations, songs, and sketches, which were highly appreciated, his selections being as follows :—

10.15 o'clock.	SONG...	...	...	"Recipes"	...	...	<i>Spurr.</i>
10.35 o'clock.	RECITAL	...	...	"Old Mother Hubbard"	...	...	<i>Spurr.</i>
11.10 o'clock.	RECITAL	...	...	"The Turkish Bath."	(By special request.)		
	MUSICAL SKETCH	...	...	"How we Sing"	...	...	<i>Spurr.</i>
11.35 o'clock.	SONG...	...	...	"Quick Work"	...	...	<i>Spurr.</i>

The conversazione had its instructive as well as its recreative side. Thus, in the small room at the right of the



corridor *Messrs. Arnold & Sons* had an exhibit of surgical instruments of interest to gynæcologists, among which we noted the following :—

Orthman's vulsellum and sound combined. Legond's automatic self-retaining abdominal retractors. Landau's hysterectomy vaginal retractor. Self-retaining douching speculum by Auvard. Doyen's hysterectomy clamp forceps. Macnaughton-Jones' glass abdominal retractor. Macnaughton-Jones' aluminium uterine dilators. Dr. Donald's flushing uterine curette. Aseptic cabinet for Instruments with two plate glass shelves. Various forms of sterilisers. Doyen's new artery forceps and needle-holder combined. Intra-uterine stems by Dr. Duke. Self-retaining tenaculum by Dr. Duke. Whisk curette by Dr. Duke. Martin's colpotomy retractors. Landau's clamp forceps. Doyen's sharp drill for morcellement.

In the same room *Messrs. Oppenheimer* showed some therapeutic remedies, among which we may mention the following as being of special interest to gynæcologists :—

Liquor Caulophyllin et Pulsatillæ Co.—Palatinoids of iron, quinine, arsenic and nux vomica. (Dr. Macnaughton-Jones' formula.) Palatinoids of various animal tissues, relating to uterine therapeutics. Mammary gland palatinoids, ovarian palatinoids, &c. Red medulla palatinoids. Bipalatinoids of ferrous carbonate with red medulla. Bipalatinoids of ferrous carbonate equivalent to 1 and 2 Blaud's pills, bipalatinoids of ferrous carbonate with arseniate. Palatinoids of permanganate of potash and perchloride of mercury for making antiseptic solutions. Palatinoids of senecio aureus, 5 grs. Palatinoids of cotarnin hydrochloride, and palatinoids of hydrastia muriate, as prepared for Dr. Macnaughton-Jones. Antistreptococcique (Pasteur Institute) in 10 cc. and 20 cc. vials. Cream of malt with cod liver oil and hypophosphites. Aluminium hypodermic case.

A somewhat unique feature was the exhibit in the room of the Royal Society of Literature (kindly lent for the occasion) of a series of fifty-two microscopical specimens. Dr.

Arthur Giles, one of the honorary secretaries, had charge of this exhibit, and several well-known pathologists kindly lent the specimens, viz., Mr. J. Bland Sutton, Dr. T. W. Eden, and Mr. J. H. Targett, besides Dr. Macnaughton-Jones and Dr. Giles. A copy of the catalogue of these specimens may be of interest to our readers. (The initials in brackets are those of the gentlemen who lent the specimens.)

*Fallopian Tube.*—(1) Primary tubercle of the Fallopian tube (H.M.-J.). Obj.  $\frac{1}{2}$ . (2) Congested Fallopian tube: early hæmatosalpinx (J. H. T.). Obj.  $\frac{1}{4}$ . (3) Salpingitis. Specimen prepared in twelve minutes, by Dr. Pick, Berlin (H.M.-J.). Obj.  $\frac{1}{2}$ . (4) Tubal mole, showing chorionic villus and decidual cells (J.B.S.). Obj.  $\frac{1}{4}$ . (5) Tubal mole, showing chorionic villi (T.W.E.). Obj.  $\frac{1}{2}$ . (6) Section of fallopian tube from a case of tubal pregnancy (T.W.E.). Obj.  $\frac{1}{2}$ .

*Ovary.*—(7) Endothelioma of the ovary (H. M.-J.). Obj.  $\frac{1}{4}$ . (8) Sarcoma-endothelioma of the ovary (H.M.-J.). Obj.  $\frac{1}{4}$ . (9) Papillary cystoma of the ovary (H.M.-J.). Obj.  $\frac{1}{2}$ . (10) Cirrhosis of the ovary (J.H.T.). Obj.  $\frac{1}{4}$ . (11) Teratoma of the ovary (J.H.T.). Obj.  $\frac{1}{2}$ . (12) Carcinoma of the ovary (J.H.T.). Obj.  $\frac{1}{4}$ . (13) Longitudinal section of tooth from an ovarian dermoid (J.B.S.). Obj.  $\frac{1}{2}$ . (14) Transverse section of tooth from an ovarian dermoid (J.B.S.). Obj.  $\frac{1}{2}$ . (15) A developing tooth from an ovarian dermoid (J.B.S.). Obj.  $\frac{1}{2}$ .

*Uterus.*—(16) Uterine mucosa at the end of menstruation (A.E.G.). Obj.  $\frac{1}{2}$ . (17) Endometritis hyperplastica (H.M.-J.). Obj.  $\frac{1}{2}$ . (18) Interstitial endometritis (T.W.E.). Obj.  $\frac{1}{2}$ . (19) Hæmorrhagic endometritis (J.H.T.). Obj.  $\frac{1}{4}$ . (20) Acute septic metritis (T.W.E.). Obj.  $\frac{1}{2}$ . (21) Adenomatous disease of cervix: erosion (T.W.E.). Obj.  $\frac{1}{2}$ . (22) Adenomatous disease of cervix: erosion (A.E.G.). Obj.  $\frac{1}{2}$ . (23) Adenoma of cervix (H.M.-J.). Obj.  $\frac{1}{8}$ . (24) Adenoma of corpus uteri, longitudinal section (T.W.E.). Obj.  $\frac{1}{2}$ . (25) Adenoma of corpus uteri, transverse section (T.W.E.). Obj.  $\frac{1}{8}$ . (26) Adeno-carcinoma of cervix (H.M.-J.). Obj.  $\frac{1}{8}$ .

(27) Carcinoma of the portio vaginalis uteri, showing "cancer bodies" (H.M.-J.). Obj.  $\frac{1}{8}$ . (28) Carcinoma of the cervix (H.M.-J.). Obj.  $\frac{1}{8}$ . (29) Carcinoma of the body of the uterus (J.H.T.). Obj.  $\frac{1}{8}$ . (30) Sarcoma of the uterus (J.H.T.). Obj.  $\frac{1}{8}$ . (31) Sarcoma of uterus : so-called deciduoma malignum (T.W.E.). Obj.  $\frac{1}{8}$ . (32) Papillomatous endometritis (J.H.T.). Obj.  $\frac{1}{8}$ . (33) Giant Cells from sarcoma of bladder (H.M.-J.). Obj.  $\frac{1}{8}$ . (34) Fibromyoma telangiectodes uteri, of Virchow (T.W.E.). Obj.  $\frac{1}{8}$ . (35) Section through complete ovum of six weeks (T.W.E.). Obj.  $\frac{1}{8}$ . (36) Decidua vera *in situ* ; four weeks' gestation (T.W.E.). Obj.  $\frac{1}{8}$ . (37) Uterine decidual cast from a case of tubal pregnancy (T.W.E.). Obj.  $\frac{1}{8}$ . (38) Uterine decidual cast from a case of spurious abortion (T.W.E.). Obj.  $\frac{1}{8}$ . (39) Early abortion (J.H.T.). Obj.  $\frac{1}{8}$ . (40) Placenta, showing chorionic villi (H.M.-J.). Obj.  $\frac{1}{8}$ . (41) Placenta, showing villi and decidual cells (H.M.-J.). Obj.  $\frac{1}{8}$ . (42) Placental polypus (T.W.E.). Obj.  $\frac{1}{8}$ .

*Vulva*.—(43) Section of an imperforate hymen (J.H.T.). Obj.  $\frac{1}{8}$ . (44) Epithelioma of the clitoris (A.E.G.). Obj.  $\frac{1}{8}$ . (45) Bartholinian gland ; section through the end of the gland (J.B.S.). Obj.  $\frac{1}{8}$ . (46) Bartholinian gland ; transverse section through the duct (J.B.S.). Obj.  $\frac{1}{8}$ .

*Kidney*.—(47) Carcinoma of the kidney (H.M.-J.). Obj.  $\frac{1}{8}$ .

*Micro-organisms*.—(48) Gonococci (J.B.S.).  $\frac{1}{12}$  oil-immersion. (49) Cancer bodies (A.E.G.).  $\frac{1}{12}$  oil-immersion. (50) Cancer bodies, spores (A.E.G.).  $\frac{1}{12}$  oil-immersion. (51) Streptococci (J.H.T.).  $\frac{1}{12}$  oil-immersion. (52) *Bacillus coli communis* (J.H.T.).  $\frac{1}{12}$  oil-immersion.

In the Council Room refreshments were provided, and to these due justice was done.

Lastly, one feature of the *conversazione*, which did not appear on the programme, except as far as it was embodied in the name of the gathering, was the pleasant opportunity it afforded for reunion and greetings among the Fellows and their friends from many parts of London and the provinces. Shortly before midnight a very enjoyable evening was brought to a close.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MARCH 10, 1898.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 58 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—H. J. Hildige, Pinner ; A. W. Howard, Harrow ; C. Z. Pearson, M.D., Cork ; G. W. H. Cumming, Torquay ; W. J. Tidy, Clifton ; R. Macartney, Cinderford ; T. F. Devane, Anerley ; L. S. McManus, St. John's Hill, S.W. ; R. M. Madden, Charing Cross ; E. S. Pattison, Fulham.

The following were nominated for the Fellowship :—R. F. Bakewell, M.B., Fitzjohn's Avenue, N.W. ; H. Disney, M.D.Dub., Chiswick ; G. A. Gunton, L.R.C.P.I., Chelsea ; T. Neville, M.D.Dub., Sloane Street, S.W. ; G. Rice, M.D.Durh., Derby ; P. A. Roden, M.B.Aberd., Droitwich ; E. V. Scott, M.D., Brighton ; A. Trower, M.R.C.S.Eng., South Kensington.

SPECIMENS.

THREE CASES OF SARCOMA OF OVARY.

*Case of Cystic Sarcoma of Ovary—Operation—Recovery.*

Under the care of Mr. BOWREMAN JESSETT.

M. H., aged 53, was admitted into the Cancer Hospital on November 8, 1897.

*Previous History.*—Menstruation commenced very early, at 11½ years ; periods lasted from twelve to fourteen days. Quite regular, but always suffered from intense pain at the time. Patient is a single woman and she suffered as above until the age of 40. At this time menstruation ceased for five years, during which period she enjoyed good health. At the age of 45 she suddenly had severe attacks of hæmor-

rhage, in fact, the patient says she was scarcely free a whole week. At this time she also suffered from leucorrhœa. These conditions have lasted until the present time.

*Present Condition.*—Complains of severe pains in back and neuralgic pain down legs. She is well nourished. The abdomen is somewhat fuller on inspection on the left of middle line and below umbilicus.

On palpation a hard, rounded tumour is easily felt extending from the pelvic cavity to within a short distance of the umbilicus.

*Per vaginam* the os is felt somewhat lower than normal, otherwise healthy. The arches of the fornices appear to be obliterated. A mass is felt apparently connected with the uterus extending into Douglas' pouch and across the left posterior quarter of the pelvis. The whole mass appears to be fixed in the pelvis, and this seemed to be caused, to a certain extent, by the rigidity of the abdominal muscles. I had the patient placed under an anæsthetic, when the tumour was readily moved to any part of the abdomen, and was found to be quite free from the uterus.

*Diagnosis.*—A solid ovarian tumour with long pedicle.

On November 16 I opened the abdomen and readily removed the tumour. The other ovary, which was quite healthy, was not removed. Patient made an uninterrupted recovery, and left the hospital, December 20.

*Remarks.*—The points of interest in this case appear to be the facts that menstruation, after being absent for five years, suddenly returned with excessive hæmorrhage, and the presence of a pelvic tumour, and by ordinary examination this tumour seemed to be fixed to the uterus, the entire mass being very fixed in the pelvis. Coupling this with the hæmorrhage, the idea that first suggested itself was that the patient was suffering from an intra-mural fibro-myoma. Under ether, however, this tumour could be moved as high as the diaphragm without any trouble; thus demonstrating the advisability in many of these cases of placing the patient under an anæsthetic before making a definite diagnosis.

*Specimen of Sarcoma of Ovary.*

Under the care of Dr. ELDER.

M. L., aged 69, came to me on November 12, 1897, complaining of a rapidly growing abdominal tumour. It had only been noticed four months, and although her general health had remained good, the pressure of the tumour so interfered with urination and defæcation that she was anxious for its removal. The growth could be seen and felt distinctly in the left iliac and hypogastric regions; solid, very movable laterally, but only slightly upwards or downwards. *Per vaginam* the tumour filled up Douglas' pouch, and pressed the uterus against the symphysis pubis. The connection between the uterus and the growth was very close, so much so that had the patient been younger, one might easily have thought it to be a uterine fibroid. On November 21, by the ordinary abdominal operation, the tumour, which was found to be ovarian (left) in origin, was removed. There were no adhesions, some ascites, and the pedicle was thick and fleshy. The other ovary was healthy. The patient made a good recovery. The specimen weighed 1lb. 11 oz.; it was proved, on microscopic examination, to be a spindle-celled sarcoma.

*Early Sarcoma of the Ovary removed by Anterior Colpotomy.*

Under the care of Dr. HENRY JELLETT.

M. T., aged 30, married five years; no children, one miscarriage five years ago; admitted complaining of severe dysmenorrhœa and intermenstrual pain, and of profuse menstruation. Had been treated for the same two years previously, when posterior division of the cervix was performed, with temporary relief.

When examined under chloroform the right ovary was found to be slightly enlarged, as by a very small cyst. Vaginal colpotomy was performed, and the ovary brought down. A small enlargement like a cyst was found at one

spot. This was incised, scraped out, the ovary stitched up with catgut, and replaced. On examining microscopically the portion removed it was found to be a sarcoma ; accordingly the peritoneal cavity was again opened *per vaginam*, and both ovaries removed. The patient made a good recovery.

Dr. HEYWOOD SMITH asked Dr. Jellett why anterior colpotomy had been done : would not posterior colpotomy have given more room ? He had recently had a case of carcinoma of the ovary ; the cyst wall was very thick, as was also the peritoneum covering it, and there was a good deal of infiltration around.

Dr. PURCELL thought they did not use enough ingenuity in applying the method of anterior colpotomy to pelvic conditions ; it was an operation well worth doing, and was used extensively abroad. Even for retroflexion it often answered very well. In Dr. Jellett's case the interest lay in the fact that it was in a very early stage. As a rule, operation could not be employed so early.

Dr. EDGE (Wolverhampton) cited a case to show the value of posterior colporrhaphy. A few days before, he had a patient with a small solid ovary to explore. He did a posterior colpotomy, and found a dermoid in Douglas' pouch, which he was able to remove. It would not have been possible to get it out through the abdomen. He thought the operation was not sufficiently employed. In every case of small enlargement of the ovaries and tubes, if the swelling be mobile they ought to consider whether it should not be dealt with through the vagina.

Mr. J. W. TAYLOR (Birmingham) agreed that the specimen showed the advantage of colpotomy. Both anterior and posterior colpotomy were a great addition to their resources. Lately he had removed a cyst containing a pint of fluid by colpotomy, and many cases would be found capable of being so dealt with.

Dr. BANTOCK thought the point of the last case had been overlooked, for he understood that the operation was

done for purposes of diagnosis, and for this purpose he did not think it was a good operation. As regards sarcoma of the ovary, this was a most important condition, because it was so very serious. Within the last eighteen months he had had two cases. One was a young woman aged 21, who had a large tumour, with ascites and hydrothorax, and a high temperature. The chest and abdomen had both been tapped. After several tapplings no more fluid collected in the pleura, and her general condition improved sufficiently to admit of operation. He removed a large tumour, weighing 10 lbs., and adherent to the omentum and parietes, as well as a second tumour from the other side. She made a good recovery, and became engaged to be married. But in a few months there was a recurrence, and she died shortly after.

The other was a girl, aged 17, from whom he removed a tumour weighing several pounds from one side, and another weighing 1 lb., from the opposite side. She made a good recovery. The operation was last November, and so far she had continued well, but her life was not a good one, and recurrence was to be feared. The microscope was not always to be relied on for diagnosis. Three years ago he removed a tumour which was said to be malignant. Since then the patient had borne her first child, and she was now in good health. He thought the question of sarcoma was a very important one, but he could not give his sanction to the operation of anterior or posterior colpotomy as a means of diagnosis.

Dr. C. H. F. ROUTH thought that colpotomy was a somewhat serious moral operation. In Dr. Jellett's case the only symptoms present were those occurring at the catamenia. Dysmenorrhœa was so common that it was a serious ordeal simply to morality to do a colpotomy for diagnosis. In this case the ovaries were very small, and microscopic examination was unreliable. He therefore thought the proper treatment was to wait, and if they found the tumour increasing only then to operate. This would be both the safest and the most proper course.



The PRESIDENT observed that the progress of gynæcology had been marked in hardly any subject so conspicuously as in the pathology and surgery of the ovary; and sarcoma was in consequence found to be much more common than was formerly thought. Another point elucidated was the complication of ovarian with other tumours, as in this case of sarcoma of the ovary with papilloma of the tube. As regards anterior colpotomy as a means of diagnosis, the procedure was so employed by Martin, of Berlin, as well as for treatment of ascertained morbid conditions. Most of those who knew how easily and safely it could be done would feel it was a plan that ought to be adopted, rather than let a woman go on with painful or dangerous disease.

Mr. BOWREMAN JESSETT, in reply, said that his case emphasised the importance, for diagnosis, of examination under an anæsthetic; for the tumour was thought to be uterine and fixed, till the patient was examined under ether.

Dr. ELDER added that the second ovary in his case was healthy.

Dr. JELLETT replied that the reason anterior colpotomy was done in his case was merely that they had got into the habit of doing this operation. He thought that for small tumours colpotomy should always be done rather than laparotomy. He could not agree with Dr. Bantock that this operation should not be employed for diagnosis. His patient had undergone various kinds of treatment for dysmenorrhœa for two years. The microscopic evidence of sarcoma in his case was quite conclusive.

#### CARD SPECIMENS.

By Mr. BOWREMAN JESSETT.

#### *Fibro-myoma of Uterus.—Pan-Hysterectomy.*

M. F., aged 36, single. Sent by Dr. White, suffering from profuse hæmorrhage which had continued with short intervals for ten months. Had large abdominal tumour,

freely movable, but apart from the hæmorrhage, its great size interfered very much with her duties.

*Pan-hysterectomy* was performed on Dec. 6, 1897, with great ease, and everything appeared quite secure. Six hours after operation she suddenly collapsed, and, notwithstanding transfusion was used, died. Cause of death, hæmorrhage.

*Fibro-myoma of Uterus—Oöphorectomy—Pan-hysterectomy.*

J. T., aged 37, single. Sent to me by Dr. Shaw in a very reduced condition due to frequent and severe hæmorrhage. In March, 1897, I performed oöphorectomy, hoping the tumour might shrink. She made an easy recovery, but on leaving the Hospital hæmorrhage returned, and she was re-admitted for operation. At a consultation delay was advised, and she left the hospital again, but owing to most severe and exhausting hæmorrhage was re-admitted on Dec. 7. After a month's absolute rest *pan-hysterectomy* was performed on Jan. 11, 1898. Good recovery.

*Carcinoma Uteri—Vaginal Hysterectomy.*

F. W., aged 49, married; 3 children, youngest twenty. During last five months had suffered from menorrhagia and metrorrhagia; periods lasted eight or nine days, and never free from hæmorrhage more than twelve days.

The uterus was found to be the seat of carcinoma. Sent by Dr. Aust-Lawrence and Dr. Wildey.

*Vaginal Hysterectomy* was performed on Jan. 18, 1898. Patient made a steady recovery.

*Cyst of Ovary—Cyst of Twisted Pedicle.*

A. G., aged 27, married nine years; two children (both healthy); one miscarriage, October, 1896; youngest child seven years of age. Admitted Feb. 19, 1898.

*Menstrual periods* always regular; last period ended Feb. 8. Patient had previously had pain in the left iliac fossa, but on Tuesday, Feb. 14, while reaching up to hang some curtains, she was suddenly seized with a most acute pain, becoming rapidly much worse. She had vomiting,

and was obliged to call in Dr. Fausset, of Belgrave Road, who found her quite prostrate and with great tenderness over right iliac fossa, which was distinctly swollen.

*February 19.*—Patient was admitted to Hospital. On inspection of the abdomen there was every evidence of a swelling occupying the right iliac fossa. It was most painful on palpation, with slight dulness on percussion. Temperature 99°. There was no vomiting, and bowels acted daily. Urine normal.

On *February 22* the mass was noticed to be more central. Patient still complained of severe abdominal pain. There was no vomiting, and bowels acted daily.

*February 22, 2 p.m.*—Mr. Jessett operated and found, as he expected, a large cyst growing from the left side, and that the pedicle of cyst had become twisted, and the cyst turned over on to the right side in front of uterus.

*March 8.*—Patient made a good recovery.

BY Mr. G. ELDER.

*Vesical Calculus.*

*Vesical Calculus*, the nucleus of which is silk ligature used two years before in the removal of double pyo-salpinx.

M. F., aged 32, had, two years ago, both her appendages removed by me for pyo-salpinx. Although she left my private hospital within four weeks, her recovery was not satisfactory, but as her house was not far off she wished much to go. From time to time I saw her, and now and again her life seemed to hang upon a very slender thread. She had a succession of pelvic abscesses, which kept discharging through the bladder, vagina and rectum. Operative interference she would not have. After a time her condition improved, and from being constantly in bed she got up a little each day, and for some months I did not see her. Last August, on account of distressing and almost constant bladder pains, she sent for me, and I found the cavity almost filled by a calculus, which I removed the next day by vaginal cystotomy. It is almost entirely phosphatic;

weighs over 2½ ounces, and in section in its interior were found the ligatures used at the laparotomy. The kidneys, strange to say, are sound.

Barring the fistula, which the patient is leaving for future consideration, her health is now good.

*Demonstration.*

Dr. GEORGE NEWMAN, Lecturer on Bacteriology in King's College, London, gave a demonstration on "Micro-organisms in Relation to the Female Pelvic Organs," exhibiting fifty microscopic and thirty lantern slides.

More than thirty different species of organisms have been isolated from the female genital tract or from discharges. It is possible, however, that several of these may be involution forms of one species. The micro-organism which is most frequently present is the *Staphylococcus pyogenes aureus*, which is the commonest of the group of suppurative bacteria. That group is generally held to consist of five chief members, (1) *Staphylococci*, (2) *Streptococcus pyogenes*, (3) *Bacillus pyocyaneus*, (4) *Micrococcus tetragenus*, (5) *Bacillus coli*. The fifth member (*Bacillus coli*) of the group is almost ubiquitous, and not now held to be absolutely certain indication of intestinal pollution. It is common in soils and water, milk and ice cream, and is, of course, a consistent inhabitant of the alimentary canal. Its red "indol reaction" (with nitrite and H<sub>2</sub>SO<sub>4</sub>) its faculty of producing gas and of curdling milk, with many other diagnostic characteristics, separate it (though sometimes with difficulty) from the Eberth-Gafkey bacillus of typhoid. It does not produce suppuration if alone, and indeed it generally, if not always, produces any action it may have in combination with yeasts or other vegetable cells.

*Micrococcus tetragenus* is rare except in suppurative conditions of the face or neck. In morphological structure it is not unlike *Sarcina*, except that it divides in two planes at right angles to each other. It occurs but rarely except in suppurative conditions of the face. At least one case is

recorded where this was apparently the only organism present in a case of pyæmia. But like *Bacillus coli* it generally acts with others. The same must be said of *Bacillus pyocyaneus*, which is supposed to be the cause of the green-blue pus occasionally seen.

The *staphylococci* and *streptococci* are the chief organisms of pus. The round cell elements are small in the former and large in the latter, in masses in the former and chains in the latter. Staphylococci occur in abscesses, carbuncles, and boils, and are extremely common in skin diseases, where they tend to confuse the issues. Their colour, morphology, and liquefying propensities readily differentiate them from their colleagues.

The *streptococci* occur in spreading inflammation, and though identical in shape, size and cultivation, vary from each other in virulence and specificity. They are sometimes grouped into three classes : the *streptococcus pyogenes* group ; the *streptococcus erysipelatis* group, slower in producing effect and not so fatal to mice and guinea pigs as the former ; and thirdly, the *streptococcus articulorum* group, which on injection appear to have a special affinity for the joints. There are also several shorter streptococci, which are not pathogenic. But all the divisions of streptococci are in the present state of our knowledge artificial and unsatisfactory. Marmorek has shown how even a non-virulent chain can be made virulent by alternately growing it in a mixture of blood serum and broth and in the body of a rabbit ; thus a streptococcus which at one time caused but a redness, may at a later stage of artificial cultivation produce suppuration, or a general septicæmia. By culturing on the same medium, on the other hand, through several generations one readily reduces the virulence of the organism. These different conditions make classification at present undesirable. Still, the streptococci are of great importance to the gynæcologist, for in puerperal septicæmia or peritonitis they are frequently found. Their presence in the genital canal, with septicæmic symptoms, would indicate the use of anti-

streptococcic serum. This is made by inoculating a horse or ass with a virulent streptococcus, and after porcelain filtration using the serum. Observe this is obtained by inoculating the micro-organism and not the toxine. The experience of those who have tried it appears to justify the following conclusions : (1) a large dose, say 15-20 cc., is preferable at the outset and then follow it up with 5-7 cc. every four hours according to reaction ; (2) the improvement is marked in pulse and temperature ; (3) there is an improvement in the subjective condition of the patient. To examine discharge or blood for streptococcus, the microscope (with careful staining) and cultivations are generally sufficient. The non-liquefying characteristic colonies cannot readily be mistaken. The streptococci I am showing are from a case of *strangles* (in the horse) and are exceptionally large and long. A fluid medium (milk or broth) is the best for obtaining the long forms in culture.

Next to the ordinary suppurative organisms the most important intruder into the genital canal is the *Gonococcus of Neisser* ; and whatever may be said in law courts to the contrary it can with care be isolated and detected from gonorrhœal pus.

The following are the chief points to note in discovering it :—

(1) *Its shape*.—It is like a round cell with a narrow slit or interspace, and hence is sometimes described as appearing like two buns with their flat bases facing each other. The straight side may be sometimes slightly concave. There are half-a-dozen other diplococci of this exact shape occurring in discharges, in healthy vaginal mucus, in lochia and in skin diseases (sycosis and eczema seborrhœicum).

(2) *Its size and number*.—The gonococcus is about midway in size between the small *diplococcus flavus liq. tardus* of eczema, and the large *diplo. albicans amplus* of the vagina. It always occurs in gonorrhœa in large numbers, and the other diplococci are few and isolated.

(3) *Grouping*.—The gonococcus generally occurs in groups and colonies.

(4) *Intra-cellular position*.—The gonococcus has the characteristic of generally being within the pus cells, and by Löffler's stain we may frequently get large colonies of the diplococcus coloured darkly and the pus cell faintly stained behind.

(5) *Staining*.—The gonococcus does not stain by Gram's method, but it is not really unique in that respect.

(6) *Cultivation*.—Nearly all the ordinary diplococci will grow on any medium at room temperature, but the gonococcus requires a fresh blood medium and a blood-heat temperature. Just recently I have obtained some excellent cultures on agar upon which some fresh human blood had been smeared. It was then possible to subculture on ordinary media.

(7) *Inoculation*.—Lower animals will not take this disease by inoculation.

It is now well known that the gonococci diminish in number as the disease becomes chronic. Their distribution is also instructive. In gonorrhœa in the female they may be present in the (1) urethra; (2) cervix uteri; (3) Bartholini's glands; (4) uterus; (5) Fallopian tubes (it is said they are present in one of every four cases of pyosalpinx); and eventually (6) in the peritoneum. They are not found on the lining epithelium of the vagina except in vulvo-vaginitis of young subjects. The reason for this is that the flat pavement epithelium of the vulva, vagina, and vaginal part of the os is resistant, whilst the cylindrical epithelium is not.

*Typhoid, Tubercle, Leprosy and Actinomyces* are also shown as species which have been isolated from the genital tract.

*Döderlein's Vaginal Bacillus* was not isolated in pure culture in time for the demonstration. In several healthy vaginal mucus slides it is present. It is an anaerobic bacillus, short and straight, and cultivated on almost any media at 37° C. with 2 per cent. glucose, or in hydrogen. Its final effect in the vagina is acidification, and it is supposed

that the well known bactericidal action of vaginal mucous membrane is in part due to this bacillus. From a number of experiments made by Kroenig and Menge it is practically demonstrated that pathogenic organisms do not flourish in the healthy vagina.

A number of lochial discharges in different stages are also shown to demonstrate the number and variety of organisms, and also the non-pathogenic diplococci resembling gonococcus.

The PRESIDENT conveyed to Dr. Newman the hearty thanks of the meeting for his kindness in coming to give them such a valuable and instructive demonstration. As there were many questions that might arise out of it, he thought it best that the discussion should be postponed till the succeeding meeting.

#### PAPER.

ENUCLEATION OF UTERINE FIBROIDS. By WILLIAM ALEXANDER, M.D., F.R.C.S. Surgeon to the Royal Southern and Workhouse Hospitals, Liverpool.

(Illustrated by Lantern Slides.)

Medical men are much divided in their opinions as to the treatment of uterine fibroids. Some hold that severe operative treatment is very rarely required, and that medicinal treatment and the occasional performance of minor operations, such as dilation of the uterine canal, curetting and electrolysis, will tide most cases of fibromyoma over the menopause. When this period is reached the tumours may be expected to shrink in size and to become innocuous. Others hold that fibroids are not the comparatively harmless growths that they are sometimes represented to be, but that they kill their hosts more frequently than many medical men admit, and that to prevent their harmful and often fatal



effects a severe mutilating operation is not only justifiable but one to be recommended.

As regards this unsettled question my experience is that once a fibroid asserts itself by *symptoms* or *signs* the life of the patient is always more or less spoiled. She may live to the average age, but even then the life is very often that of an invalid, often that of a great invalid. As to her prospects of existence, no medical man would recommend her at first class rates to an insurance company, and probably she could not obtain an insurance policy from any office—a sure proof that the disease shortens life either directly or indirectly. I have in my mind a patient, the subject of a uterine fibroid, whom I have watched for seven to eight years, and who is now undergoing the “change.” I must say that she has been a great sufferer, as well as a great drain on her husband’s resources. Her life has been threatened very seriously on several occasions from attacks of peritonitis, and once she nearly required operation for obstruction of the bowels. She has had a nurse or a companion all the time, and the social amenities of the household have been in abeyance for the same period. Her nerves are now all unstrung, and any departure from the most quiet life brings on not only intestinal or renal disturbances, but at the same time an attack of “nerves” most painful to behold. This represents one of the more grave cases, but many others have lesser symptoms, such as a sense of weight, dragging pains in the back, irritable bladder, attacks of metrorrhagia, uterine displacements, sterility, that render their lives very uncomfortable if not rather miserable.

In these, if married, we have the risks of abortion with its complications and sequelæ, and the greater risks accompanying parturition or those attending the artificial terminations of labour. Most of these cases would be much healthier and happier without their fibroids, if these could be removed without great risk and without much sacrifice of healthy organs.

But when such patients seek complete relief, the treat-

ment hitherto advised seems to me to more than justify the attitude of those who are reluctant to try such means of cure, except for cases where life is threatened or the condition of the patient very wretched indeed. Except in a few cases, where the tumour can be enucleated through the natural uterine and vaginal passages, and some more or less pedunculated subperitoneal fibroids that may be ligatured and snipped off or enucleated, the operative treatment of most single and of all multiple uterine fibroids is extremely sweeping in its extent. The mildest plan is by removal of the ovaries and tubes, but this is not so certain as partial removal of the uterus and fibroids, with or without removal of the appendages, and this is not so neat as removal of the uterus and tumour through the vagina; and this is not so easy or so applicable to all cases as panhysterectomy, by which all the internal reproductive organs are removed at one fell swoop. The medical journals contain many references to the more severe operation, even for small fibroids, and in young people and with good results as far as the mortality is concerned. But lessened risk of death from an operation does not necessarily justify an operation. To amputate a limb for a strumous joint would be a safe and neat method of getting rid of a troublesome disease, but the sufferer has afterwards to do without a very useful part of his body. Hence true conservative surgery has so modified the treatment of joint disease that amputation of limbs, from being the staple occupation of surgeons, has become comparatively rare, and now such limbs are scarcely ever sacrificed except for malignant disease.

The operative evolution from partial hysterectomy to vaginal and pan-hysterectomy in the treatment of uterine fibroids was no doubt legitimate from an *operative* point of view, as these latter operations are cleaner and safer, and the difference in the amount of mutilation in each is small and unimportant. But if it should become safe to remove the tumours alone without removal of the uterus, ovaries or appendages, then in all cases it is better surgery to only

remove the offending parts, and in young women with small tumours the conservative operation would be obligatory. The prosecution of this idea has led up to the results to be described in the remainder of this paper.

In the year 1894 I read before the North of England Gynæcological Society a case where I removed a large uterine fibroid from the fundus uteri and left behind nearly all the uterus as well as all the uterine appendages. A circular incision was made round the tumour down to the capsule and the tumour was enucleated below the incision. Hæmorrhage was restrained by a stout double silk ligature passed through the transfixes fundus uteri, just below the

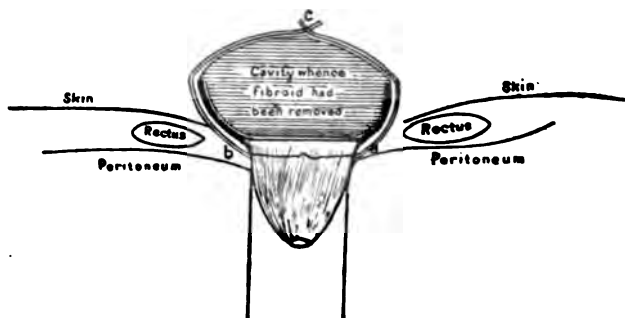


FIG. 1.

tumour, and tied tightly at each side. A large mass of lint steeped in perchloride of iron was laid in the cavity whence the fibroid had been enucleated, and the lint was firmly held in its place by tying over it the ends of the ligatures that had transfixed the uterus. Fear of hæmorrhage suggested the iron and the pressure. The peritoneum was stitched to the uterus so as to surround it just below the ligature and the wound closed. There was no sloughing and no hæmorrhage, and the uterus gradually dropped into the abdominal cavity perfect except for the piece of the wall of the fundus taken away with the tumour. I performed another operation



FIG. 2.



FIG. 3.



in a smaller way, and with a like result. In neither case was the uterine cavity opened, and the uterus dropped gradually into the pelvis as the stump does after the clamp has been used.

It was obvious that the operation, though a true conservative one, would only be suitable for fibroids on the summit of the fundus, and above the limit of the Fallopian tubes, and that the removal of a piece of the uterine wall was a disadvantage that prevented the operation from being classed in a satisfactory category.

In June, 1896, I made a longitudinal incision over a troublesome fibroid in the fundus, enucleated it completely, packing the cavity with lint dipped in perchloride of iron, and stitched the peritoneum to the margin of the opening. The whole uterus was here left in the abdominal cavity, and the patient went out of hospital with all her organs practically perfect. A year after I heard that she was in good health, doing her work, and that her uterus was normal.

Encouraged by the success of these three cases I next operated on Mrs. H., aged 45, on September 12, 1896, and removed from her three fibroids, averaging half a pound each in weight. The symptoms complained of were severe abdominal pain, weight, inability to get about, and menorrhagia.

As the method of operation adopted in this case is nearly the same as that adopted in the subsequent cases I will here describe what I consider the best method of operating.

The abdomen was opened in the ordinary way in the middle line by an incision of sufficient length to allow the tumour to come through the opening thus made. An assistant with two fingers in the vagina now pushed the uterine tumour into the wound from below, when three large fibroids were exposed to view, one in the anterior wall, one in the posterior wall and one in the fundus. Warm, dry, aseptic sponges were placed round the uterus, completely shutting off the rest of the abdominal cavity from

the field of operation. A vertical incision was made into the wall of the uterus covering the anterior tumour until the white surface of the fibroid could be seen. By means of the finger and blunt dissector the tumour was readily enucleated and any bleeding points were caught by compression forceps, and tied at the time or afterwards with catgut ligatures. The finger now palpated the bottom of the wound for the locality of the tumour in the fundus, and

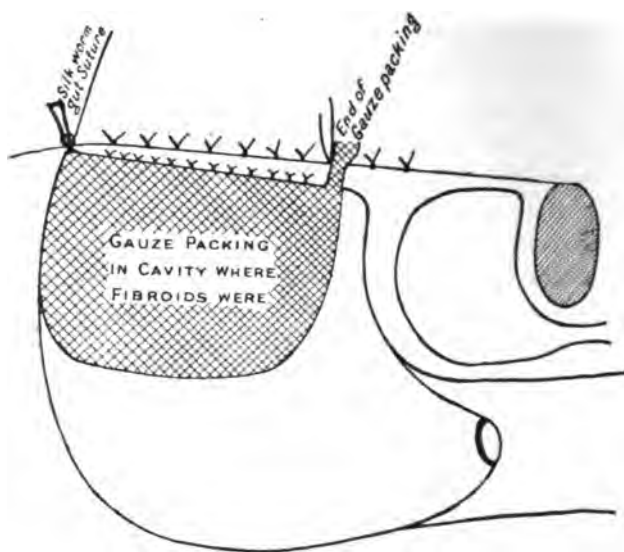


FIG. 4.

the incision deepened till its surface came into view. It was also easily removed. In the same way the posterior tumour was also removed through the same opening. A sponge was now stuffed into the deep cavity and left there until a strip of iodoform gauze, many yards long, was produced. The sponge was removed, and the already lessened cavity was packed with the gauze, the end of the single strip emerging from the lower end of the opening



FIG. 5.



FIG. 6.





into the uterus. The wound in the uterine wall was now closed with numerous superficial and deep catgut sutures, except where the piece of gauze emerged below. A single silkworm gut suture was passed through the uterus at the upper end of the incision in its wall, and each end of it, through the whole thickness of the abdominal wall at the upper end of the laparotomy wound, tied externally so as to fix the fundus uteri temporarily to the abdominal wall. Before it was tied all the sponges were removed from the abdominal cavity, which was found unstained.

The laparotomy wound was now closed by buried sutures in the peritoneal layer and deep silkworm gut sutures through all the layers, except at the lower end where the strip of gauze which passed out of the cavity in the uterus emerged on the abdominal wall. This strip drains at the same time the cavity in the uterus as well as the abdominal cavity, which it traverses between the uterine and abdominal walls. The abdominal wound was dressed in the ordinary way with double cyanide gauze and salicylic wool, the wool being changed when necessary during the first forty-eight hours. At the end of that time about a foot of the strip of gauze was gently and slowly pulled out, and the same amount daily until it was all removed. The wound healed up without any complication except some recrudescence of an old-standing emphysematous and bronchitic pulmonary complaint which arose after the first week. There was no shock and no collapse.

I examined the patient a few days before Christmas, 1897. The uterus was normal in size and in position, and the patient was robust. A small sinus remained in the abdominal wall due to the use of some silk sutures which were used to close the uterine wall in this case. Since then I use catgut and have no sinuses. The silkworm gut suture was removed at the end of fourteen days and the uterus allowed to drop into the pelvis.

*Case V.*—Mrs. E., aged 45, married ; seven children, two miscarriages, last child seven years ago. Parturition always normal, menstruation irregular, dysmenorrhœa.

Several months ago she commenced to feel unwell and to "flood." Dragging pains were felt in her back and left side, worse on lying down at night, with frequent micturition and defæcation. She became sleepless and worried, and applied for admission to hospital on June 29, 1896. A mass of fibroids filled up the pelvis; the uterus was retroverted. The patient was so anæmic and reduced that the tumour was pushed up into the abdomen and a thick ring pessary inserted to keep the mass out of the pelvis. Tonic treatment was prescribed, and the patient sent home.

She was re-admitted on September 26, much worse, very anæmic, and exhausted, and with the uterine tumour much increased in size. The operation was performed on October 12, and four fibroids were removed through one incision in the same way as in Case IV.

In this case the uterine cavity was opened, and an india-rubber drainage tube was passed right through from the abdominal wall to the vagina in addition to the packing previously described. Antiseptic lotions were syringed through the tube after the iodoform gauze was removed. By this means the large cavity left in the uterus by the removal of the fibroids was kept free from infection, likely to be caused by its contiguity to the infected mucous membrane of the uterus, until the operation cavity had shrunk up and disappeared.

The temperature only reached 100° once, on the third day after operation, and was all the rest of the time quite normal or subnormal. There was no shock such as might have been expected in so feeble a patient. She went home six weeks after operation and has not been seen by me since.

On January 14, 1898, I caused inquiries to be made, and find that she improved considerably after operation, all her pelvic symptoms disappearing. She then began again to lose flesh, jaundice set in and signs of cancer of the liver appeared, from which she died in the summer of 1897.

*Case VI.* was a lady, aged 49, who was rapidly becoming



FIG. 7.



FIG. 8.

1

2

insane through the worry of a mass of fibroids that filled her pelvis. She was restless, talkative, and occasionally "queer," of spare frame and sallow complexion. She had frequent attacks of febrile symptoms, tongue dirty, skin unhealthy, irritable bladder, and speaking generally her state was most unsatisfactory. Her mind was fixed on her fibroids, and in the endeavour to give relief twenty-five fibroids were removed on September 23, 1896. Twenty intra-mural growths were enucleated, and five were ligatured and snipped off, being pedunculated and subperitoneal. The wound healed without any febrile disturbance and her mental condition seemed to improve for three weeks, when she became incoherent, sleepless and refused her food. On October 26, rather more than a month after operation, her temperature rose to  $102.2^{\circ}$  and remained there for two days, dropping to normal. Her mental condition remained the same. On November 6 the temperature again rose, and on the 8th reached  $105.2^{\circ}$  accompanied with wild delirium. On the 9th she became comatose, and died November 10, three weeks after the operation had been quite recovered from.

A *post-mortem* showed very distinct thickening of the membranes of the brain, with deposits of lymph both old and recent. There was intense congestion of the meninges and oedema of the arachnoid. The uterus was normal in size, adherent to the abdominal wall and to the neighbouring organs by loose bands of lymph. No signs of inflammation or suppuration.

*Case VII.*—Mrs. A., aged 51, admitted to hospital October 5, 1896, when the previous case was considered out of danger. Twelve years ago she had laparotomy performed in London and had not since been unwell till two years ago when metrorrhagia began. She was very much blanched from loss of blood and her condition was very unfavourable. The absence of shock in the previous case encouraged me to operate and twenty-three fibroids were removed, so similar in size and kind to those removed in Case IV. that

they were not photographed. There was no shock, and no disturbance, and no temperature for two days; then persistent vomiting and abdominal distension set in, and she died from obstruction of the bowels on the fifth day. Colotomy failed to give relief. About six inches of small intestine were found gangrenous without any apparent reason. There was no peritonitis or uterine complication.

*Case VIII.*—Miss H., aged 36, admitted to the private ward of the Royal Southern Hospital on March 1, 1897, suffering from severe dysmenorrhœa, pain across the lower part of the abdomen, great irritability of bladder and frequent micturition both by day and night. The dysmenorrhœa has existed for several years, but the bladder troubles have only been in existence for rather more than a year. A year ago she placed herself under medical treatment with temporary benefit, but since last November she has been a complete and very uncomfortable invalid.

A uterine fibroid, two pounds in weight, was enucleated from the body of the uterus on March 4 without any difficulty. The uterine cavity was not opened and no drainage was used. There was practically no trouble afterwards except a little phlebitis of the left leg in the third week. I examined the patient on January 10, 1898. Her uterus was normal in size, in good position, and she was quite cured of all her pelvic troubles.

*Case IX.*—Mrs. W., aged 31, admitted to Hospital April 5, 1897, suffering from uterine fibroids, producing pressure symptoms, of which the most prominent was frequent micturition. She was practically unable to carry on her work as a nurse through the infirmity, and as there also was a probability of marriage pending, her mental anxiety on both accounts was very considerable.

I told her about these operations and advised the performance of a similar operation upon her. Some one advised the operation being done in London, where she would be near her friends. I then explained to her the different methods of dealing with her case and warned her

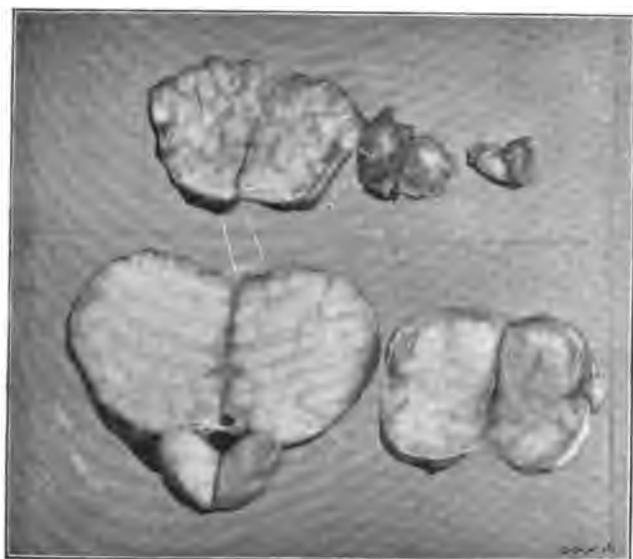


FIG. 9.

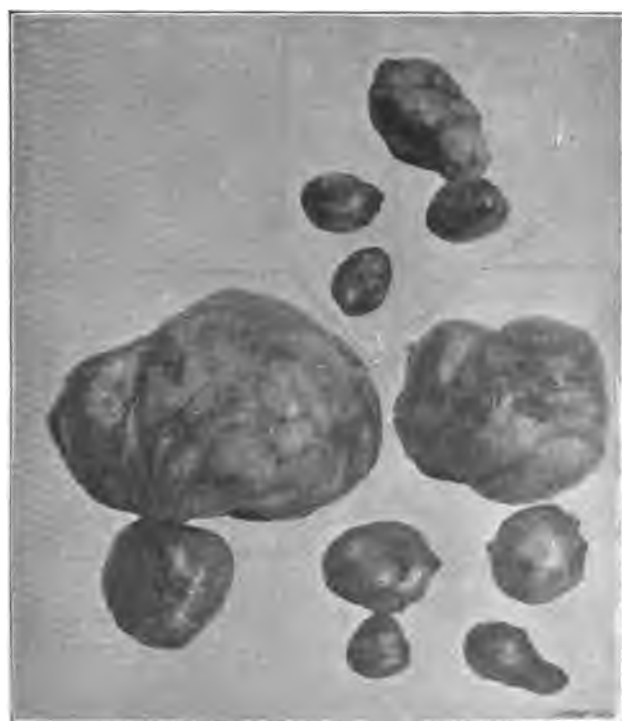


FIG. 10.





against the mutilating operations, and that I thought she should have the fibroids alone removed. After consulting several medical men in London she returned to Liverpool, because she said no one offered to perform the operation I have described, and some said that such an operation was not possible. Four fibroids were removed on April 8, 1897. The temperature and pulse remained perfectly normal for fourteen days, then a misunderstanding arose between the friends of the nurse and her attendants, the wound suppurated and some phlebitis supervened. There was never any danger, but the convalescence was delayed, and she was not able to leave the hospital until June 23. The uterus was then small and in good position. I had a letter from this patient on January 21, 1898, saying she had gained a stone in weight since before operation. Her menstrual periods are natural, but rather frequent, and quite free from pain. There is no return of the kidney trouble. She says: "I am so grateful to you, doctor, for all you have done for me. You don't know what a pleasure it is to go to bed and to be able to rest without being disturbed. The operation, from the bladder point of view, was a great success."

*Case X.*—A cook, aged 30, admitted to the Workhouse Hospital, October 3, 1897, complaining of pain, weight, bladder irritation, and menorrhagia for four years, and during all that time she has been unable to work. She was very anæmic on admission. Four years ago a tumour was removed by the vagina at a neighbouring hospital without any relief. On October 13 twelve intra-mural fibroids were removed in the usual way. The uterine cavity was opened and a pedunculated intrauterine fibroid polypus was removed, and three others were removed from outside the mucous membrane. The convalescence was practically uninterrupted, although the cavity suppurated. This was due to my depending upon gauze drainage and not passing a drainage tube through. She is now (February 10) walking about, feeling well except that she is anæmic. She is free from all bladder symptoms.

*Case XI.*—Mrs. B., aged 35, consulted me in July last for metrorrhagia. She had a large uterus with a distinct tumour in the fundus diagnosed as a fibroid. Medicinal treatment and rest were prescribed, and up to the end of October the hæmorrhage was kept in check. In October serious flooding set in, and as the patient lived in the country some distance from assistance an operation was recommended. On opening the abdomen a diffused swelling occupied the fundus. The uterus was opened, and the swelling was found to be not a circumscribed fibroid, but a mass projecting into the cavity of the uterus. The thickening was shaved off from the inside till the uterine wall was equal all around. Then the mucous membrane of the uterus was curetted transperitoneally, as there were some villous growths upon it, and the cavity was then washed out. A strip of gauze led from the uterine cavity into the vagina, and the uterine wall was stitched up completely, no gauze being used to pack the wound. The abdominal wound was closed except below, where a small strip of gauze was inserted down to the peritoneum. The convalescence was quite uninterrupted, and the patient has menstruated twice since in a perfectly normal way. The piece removed weighed an ounce. It had the microscopical structure of a myoma, but seemed to me a nodular thickening of the uterine fundus.

*Remarks.*—We have thus recorded eleven cases of uterine fibroids, some of them of a very grave character, treated by this method of enucleation, with one death from the operation. This death was not so much due to the special operation *per se* as to an accidental complication that may follow any abdominal section. In performing these operations it must be remembered that I had to feel my way, unassisted by any clear directions either from text books or from medical journals; for though enucleation is named by gynæcologists, it evidently has been reserved for single tumours, and only very infrequently has it been performed for them.

With the experience now gained I think the mortality after these operations will in the future compare very favourably with any operation for abdominal tumours. A low mortality being secured, the non-mutilation of the patient should give this operation a tremendous advantage over the other deprivative operations; for even women near the menopause do not like to be deprived of their organs, and married ladies, no matter how dark their prospects of pregnancy may be, do not like to absolutely lose hope of ever having a child. Young women with troublesome symptoms, sterile women with fibroids, but without troublesome symptoms, can all be relieved without interference with the ordinary functions of the uterus. Mere number of tumours is no contra-indication to the operation, nor is size of tumour, provided it has not absorbed the uterus or appendages and left nothing worth preserving.

Hæmorrhage was the great danger dreaded in the performance of these operations, but I found it was not so great as anticipated, and that it could be controlled by pressure forceps and sponges in much the same way as in operations elsewhere. The treatment of after oozing was a matter of great concern. It was necessary to prevent any trickling of blood into the abdominal cavity, and at the same time to leave the uterus inside the abdomen in a natural position, and in a natural state when the wounds had all healed up. These conditions have been fully attained by the method of treatment adopted.

The removal of all the tumours does not present any difficulties. The uterine walls can be ransacked quite easily. Whether these tumours will grow again is a matter for future experience to decide. What experience we have is against such growths, as the effects of traumatism has always been so far to make uterine fibroids shrink. The time necessary for a fresh crop to grow would, however, generally bring such cases to a period of life when such growths would tend to cease in course of nature, and should a second

operation become necessary there is no reason why it should not be performed.

How far the uterus and appendages will be able to resume their functions of pregnancy and parturition has not been practically settled by the occurrence of these states on patients operated on. There are no *a priori* reasons, however, why such occurrences should not proceed naturally, as nature tends to go back to the normal condition when disturbing causes have been removed.

The operation is a plain, straightforward one, much easier than pan-hysterectomy, and very much easier than that Chinese puzzle of removing a comparatively large fibroid-laden uterus through a comparatively narrow vagina. In some cases, no doubt, deprivation of the uterine organs is not of great moment, and in other cases enucleation may be out of the question, so that I do not recommend it as a panacea for fibroids. But in all cases enucleation can be considered as the most desirable of all the operations for uterine fibroids, if it can be safely and conveniently performed, and I can recommend the method of treating uterine fibroids to greater consideration at the hands of the profession than it has so far obtained. If this paper will have rendered safer the operative *technique* of enucleation and extended the operation further than the very limited field enucleation has hitherto held, then an additional resource will be placed in the hands of gynæcologists whereby troublesome small fibroids can be removed earlier because by the so much milder operation, and even in more advanced cases the disease may be removed without destroying the functions of the sexual organs, although the retention of that function may not seem to the operator of much importance.

The PRESIDENT, in thanking Dr. Alexander on behalf of the Fellows for his important and interesting paper, said that the question of enucleation of fibroids was not a new one, the operation being associated with the name of Sir Spencer Wells, who was one of the first, if not the

first, to operate in this way. It had found much favour on the Continent, though not much in this country or in America. The question, therefore, demanded careful consideration, and as the meeting had already been prolonged beyond their usual limits, this discussion also would be postponed till their next meeting. Dr. Alexander had kindly promised to come up again for this purpose, if possible.

**THE BRITISH GYNÆCOLOGICAL SOCIETY.**

THURSDAY, APRIL 14, 1898.

DR. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 45 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : R. F. Bakewell, M.B., London ; Henry Disney, M.D., Chiswick ; G. A. Gunton, L.R.C.P., Chelsea ; Thomas Neville, M.D., London ; George Rice, M.D., Durham ; P. A. Roden, M.B., Droitwich ; E. I. Scott, M.D., Brighton ; A. Trower, M.R.C.S., Kensington.

The following gentlemen were proposed for election : F. J. Buler-Hogan, M.D., Leyton ; T. Carwardine, M.S., Bristol ; H. Chestnutt, L.R.C.P.E., Tralee, Ireland ; J. J. Clarke, L.R.C.P.I., Walthamstow ; Owen C. Coker, L.R.C.P., London ; E. T. Flynn, L.R.C.P.I., Clapham ; R. E. Foott, L.R.C.P.E., Wood-Green ; W. F. Hingston, M.D., Deptford ; H. Oppenheimer, M.D. Heidl., London ; J. Inglis Parsons, M.D. Durh., Mayfair ; R. B. Sealy, L.R.C.S.I., Disley ; J. P. Simpson, M.D. Glasg., London ; A. Spearing, L.F.P.S.G., Shaw, Lancs. ; W. J. Sprott, M.D. Dub., Beeston, Notts ; E. W. Stoker, L.R.C.P.I., London ; F. J. A. Waring, M.D. Brux., Brighton ; W. Wigglesworth, L.R.C.P.E., London ; A. W. Wigmore, L.R.C.P., London ; Daniel Wilson, M.D. Dub., Bushey Heath ; Thomas Wilson, M.D. Lond., Birmingham.

CARD SPECIMENS.

By Dr. MACNAUGHTON-JONES.

*Hæmorrhage into the Ovary, and Cystic Ovary causing  
Oöphoralgia and Dysmenorrhæa.*

Adnexa removed by Dr. Macnaughton-Jones for persistent ovarian pain. Patient was married, aged 30. She had

suffered from retroversion and constant ovarian pain, and had tried various forms of treatment. Her last pregnancy was five years previously, and there was one subsequent miscarriage. She was greatly reduced in weight, and her general health had suffered for over two years. At the time of the operation the uterus was enlarged and retroverted. The adnexa were also enlarged and painful. The pain had been constant for some years. On completing the oöphorectomy the uterus was found to be in so normal a position that hysteropexy was deemed unnecessary. The subsequent history of the case proved that this conclusion was correct.

*Mr. Targett's Report on the Ovaries.—Right Ovary.*—Not enlarged, surface somewhat wrinkled but free from adhesions. On section, numerous cysts are seen, the largest one-third of an inch in diameter. Several of the cysts have a convoluted white lining membrane, others are smooth-walled, and contain dark fluid.

*Left Ovary.*—The naked eye characters are very similar, but there is one larger cyst with a wrinkled lining membrane. The Fallopian tube and meso-salpinx are normal on both sides.

Microscopically, both ovaries show young ova, with old corpora lutea.

The cysts are due to dilatation of follicles or to cystic changes in corpora lutea. They have no epithelial lining.

No interstitial epithelioid cells have been detected.

*Dysmenorrhœa.*—Dr. Macnaughton-Jones showed the adnexa removed from a patient for incurable dysmenorrhœa. The uterus had been previously operated upon for sterility and dysmenorrhœa. There was one pregnancy, and then a return of the dysmenorrhœa, attended by erosion of the cervix. She was curetted, without avail. The pain continued, and oöphorectomy was performed on Feb. 1, 1898.

*Mr. Targett's Report on Ovaries.*—The right ovary is of normal size and shape, the surface is somewhat nodular from thickening of the cortex, and on section it shows a large blood clot of three-quarters of an inch in diameter.



Microscopically, there is marked congestion of all the vessels of the ovary, and this has caused a large hæmorrhage (apoplexy) into an old follicle.

The blood cyst is well encapsuled, and there is evidence of commencing organisation at the periphery. Many ova in various stages of development may be seen, as well as old corpora lutea.

On the left side there is a recent corpus luteum, and many small serous cysts due to distension of follicles. The Fallopian tubes and abdominal ostia are normal.

By J. FURNEAUX JORDAN.

*Unruptured Tubal Pregnancy (Right).*

This specimen was removed on September 2, 1897, from a patient aged 34; married sixteen years. Eight years ago had an "Alexander's operation," done for her by Mr. John W. Taylor, and four years subsequently the same surgeon operated again for a left hydro-salpinx with a twisted pedicle.

*History of Present Illness.*—Menstruation regular till May last; missed her periods in the beginning of June and July. Began to lose on July 10, and has been losing on and off ever since up to date of taking these notes, viz., September 1.

With the first loss had an attack of severe abdominal pain with some collapse. This pain lasted about a week and then passed off. Very little pain since.

On examination a firm tender swelling could be felt to the right of the uterus and rather high up.

*Specimen.*—The pregnancy had evidently been at the uterine end of the tube; so close to the uterus was it that the ligature had to include the uterine cornu. Outer end of the tube appeared to be normal. No blood in the peritoneal cavity.

In the unavoidable absence of Dr. Newman, it was decided to postpone the discussion on his demonstration on "The Bacteriology of the Genital Tract" till such time as he could be present.

ADJOURNED DISCUSSION ON DR. ALEXANDER'S PAPER ON  
"THE ENUCLEATION OF UTERINE MYOMATA."

Mr. BLAND SUTTON first congratulated the Society on the fact that it had no by-law which would prevent a paper already published in the medical journals from being printed in the Society's journal; for it was through the abstract of Dr. Alexander's paper in *The Medical Press and Circular* that he was made acquainted with that paper. The first part of Dr. Alexander's communication gave him much pleasure; because it was a satisfaction to him to find that Dr. Alexander appreciated the fact that fibroids of the uterus might destroy life in many cases as surely as malignant disease, though more slowly; and he endorsed all that Dr. Alexander had said on this point, especially as to the way in which they might destroy life, viz., by hæmorrhage, renal disease, &c. It formed another plea for the early treatment of these cases. As regards enucleation, he did not agree with Dr. Alexander to the extent that he would like. It had long been the aim of all who were interested in this branch of surgery to save organs; but when they read the results of Continental operators, who were not beset with so much sentiment as affected them in England, they found that enucleation had been attended with more disastrous results than hysterectomy, even in the hands of such eminent operators as Pozzi and others. He had himself tried enucleation of fibroids in eight cases, all of which recovered, and his experience was like that of Alexander to this extent, that he found it a quite simple operation, as far as the enucleation itself was concerned; as simple, indeed, as the enucleation of cysts from the broad ligament. But then afterwards there was the oozing! If Dr. Alexander could suggest a method by which this could be avoided, then he (Mr. Sutton) would find himself in sympathy with him. In three cases in which he was anxious to perform enucleation, he found himself obliged, on account of oozing,

to do hysterectomy; whilst in other cases he had had to remove one ovary, or tie the uterine artery, for the same purpose. If they could tie the uterine arteries before their entry into the uterus, then enucleation would be a good operation. It seemed to him that the objections to enucleation were : (1) the difficulties due to hæmorrhage; (2) the long convalescence; (3) the long duration of the operation; (4) the troublesome sinus. It was a risk to take a tumour from the uterus, and, after thinking the hæmorrhage was over, to find oozing going on from the cut edges. Though his eight cases were successful, they were long and anxious, and there was a sinus. On the other hand, if they took away the uterus, but left at least one ovary, the operation could be done in half-an-hour, or in an hour at most; and in eighteen days the patient was able to walk about; whilst enucleation would take at the least an hour; and convalescence took five or six weeks. During this time there was the anxiety of hæmorrhage, and in the end there was the sinus. If these two latter factors could be obviated, enucleation would be a satisfactory procedure; and he hoped the time would come when this would be the case. There was another reason why they should not hesitate to remove the uterus; most fibroids developed after the child-bearing period, and, therefore, in many cases after a long, fertile married life. Of course, there were cases in which the patient was young, and wished for children, and, indeed, in one of his cases of enucleation, pregnancy followed. But in most cases the uterus had become a non-vital and unimportant organ; and it could well be spared if at least the ovary was left. Until enucleation was on a better footing, the patient would generally do better to keep her ovaries and part with the uterus. He did not wish, however, to decry enucleation; for there were some cases in which it could be advantageously done; but at present he felt sure that it would be limited to comparatively few cases. No doubt Dr. Alexander had had the same experience. He did not know of any case

in which the operator had enucleated so many fibroids as Dr. Alexander had done, and in conclusion, he felt that their thanks were due to him for the frank and fair way in which he had brought these cases before the Society.

Dr. W. SMYLY (Dublin) agreed with Mr. Bland Sutton that this operation was very good in a limited number of cases ; but that where the patient had passed the child-bearing period, and the uterus was a useless organ, hysterectomy was better. Enucleation was specially indicated in the case of young women with one or very few myomata. He had operated in five cases in this way, and in these there was only one fibroid nodule ; he lost one patient from sepsis ; the others recovered, and had remained well. In addition to what Mr. Sutton had said about hæmorrhage, there was a risk of other fibroids developing later ; but, perhaps, the strongest argument against enucleation was the fact that Martin, of Berlin, its originator and main developer, had he believed abandoned it of late.

Dr. GRANVILLE BANTOCK thought that the two previous speakers had missed the main point of the paper. About enucleation itself there was nothing new ; Dr. Alexander's innovation consisted in the application of the method to multiple myomata. Martin, of Berlin, had found that the nearer the operation was carried to the uterine cavity, the greater was the danger ; in addition, there was the risk of hæmorrhage. The enucleation itself was not difficult, though he could not agree with Mr. Bland Sutton that it was as easy as the enucleation of a parovarian cyst. But the question was, how would Dr. Alexander deal with a case in which there was one fibroid in the anterior and one in the posterior wall of the uterus ? He had recently a case of a fibroid, a pound in weight, in the posterior wall of the uterus ; after enucleating it, a large cavity was left. Then on the anterior aspect of the uterus there was another fibroid, so he decided to take away the whole uterus. This he did with a good result. The taking out of a dozen or more

fibroids was a work of supererogation, for such a uterus could not be of much use to the patient ; and he thought that in such a procedure Dr. Alexander would not have many imitators. Mr. Sutton had stated that fibroids attacked women after the child-bearing period ; but most of them occurred between the ages of 30 and 40, and this was by no means past the child-bearing age. He had recently had two cases of normal delivery at term, one over 40, and one under 30, though they suffered from fibroids. He felt that there was a tendency to operate too much in these cases ; many had no symptoms ; very few died from hæmorrhage, perhaps rather more from kidney disease and general impairment of health. But since it was found that many women suffered nothing, and were able to bear children, he thought they ought to stay their hand. The more experience he had, the less he was inclined to operate.

Mr. BOWREMAN JESSETT thought the main point was not the enucleation of fibroids, but the way in which this was done by Dr. Alexander, viz., bringing the edges of the sac to the surface and packing with gauze so as to make the wound extra-peritoneal. He felt sure that Dr. Alexander would not operate on all cases by this method. But he would like to know the ultimate results in a case like that in which eleven fibroids were removed, for he should think that in such a case the other fibroids would grow and cause trouble in the future. As regards Mr. Sutton's view that these cases would destroy life, though slowly in some cases, he was at variance with him. He did not think these growths killed the patient, and he would urge that there should not be too much hurry in removing them. But when interference was necessary, he thought it was easier to take away the whole uterus than to enucleate. He agreed with Mr. Sutton that a woman with two ovaries and no uterus was in a better position than a woman with a uterus and no ovaries ; and so he felt that a woman who had had a double ovariectomy done was in a worse condition than one who had had her uterus removed.

Mr. J. FURNEAUX JORDAN (Birmingham) said he would like to know how Dr. Alexander arrested hæmorrhage : in his early cases he used perchloride of iron ; but what method did he employ in the later cases ? In a case with several nodules, he should think it was impossible to unite the edges to the abdominal wound. For his own part, it seemed to him that an operation should not be done unless all the surfaces could be brought into apposition with deep sutures. How did Dr. Alexander manage this when there were several nodules ? He thought hysterectomy was the easier operation.

Dr. HERBERT SNOW observed that Dr. Alexander's operation was that of enucleation of *multiple* fibroids. He had brought it forward, not from the point of view of its ease or safety, but as conserving the child-bearing organs ; by this it must stand or fall. In such a case as the one in which he removed thirty fibroids, what reason had he for thinking that a uterus so far diseased could resume its functions ?

Dr. HEYWOOD SMITH thought that this method should be called "enucleation by cœliotomy," in contra-distinction to the more generally understood operation of enucleation through the os uteri. When a uterus was studded with fibroids, he thought it was much better to remove the whole organ. As regards pregnancy, all depended on the position of the fibroid ; when in the fundus, there was no reason why pregnancy should not end safely at term ; but when in the cervix there was considerable danger. For the oozing from the cavity, he thought that tincture of matico was not used as often as it deserved. He had a case where a fibroid was adherent to the floor of the pelvis. . . . On being separated this naturally bled rather freely. He packed a sponge wrung out of tincture of matico into the cavity, and when he came to close the abdomen, there was no further oozing. When there was some contractile tissue left superficial to the tumour, the contraction would be enough to stop the oozing.

Mr. CHRISTOPHER MARTIN (Birmingham) agreed with Dr. Bantock and Mr. Jessett that they ought to be very careful in the selection of cases. The reduction of mortality had led many surgeons to operate when no operation was needed. But granted a suitable case for operation, then if there were more than one nodule, he thought enucleation was more risky than hysterectomy, while the cure was not certain. Lately he had to do a hysterectomy in a case in which a distinguished surgeon had performed enucleation five years previously. At the time of the first operation, there were no other nodules felt; yet after twelve months the symptoms began again, and when he did hysterectomy there were several myomata. The risk of enucleation was great, the shock was great, and there was also great danger of hæmorrhage. They could not be certain of curing the patient, and they left behind at best a mutilated uterus. He agreed with what Mr. Sutton had said as to the relative value of the uterus and ovaries. A woman who had lost her uterus but retained one or both ovaries was far better off than a woman who had lost both her ovaries but retained her uterus. He thought that enucleation should be reserved for cases in which there was only one myoma, and they could be certain of effectually controlling the hæmorrhage.

Dr. C. H. F. ROUTH remarked that there seemed to be two sets of opinions in the Society; on the one hand, the heroic operators, on the other, those who by long experience thought that too many operations were done. He quoted with approval the practice of the late Mr. Baker Brown, as illustrated by the case of a woman with three fibroids, the size of oranges, projecting from the sides of the uterus into the vagina. He simply cut through them without trying to enucleate them, and they disappeared. Modern surgeons would have done a more complete operation, probably with no better results. In cases of hæmorrhage, he wondered that men had not adopted the plan of securing the arteries before doing anything to the

uterus. Those who practised heroic measures were setting aside all previous experiences ; and he would ask whether they got any better results. Sometimes mere puncture of a fibroid would cause it to disappear. He thought, therefore, that much that was less heroic could be done with the same advantage.

Dr. HODGSON could not see the advantage of keeping the uterus after its nutrition had been cut off by tying the arteries, and the uterus itself had been mutilated by the enucleation of multiple myomata.

Dr. FRED EDGE (Wolverhampton) cited the case of a large fibroid filling the pelvis in which he tried, some years ago, to remove the appendages. In doing this he tore the capsule of the fibroid and so had to go on to enucleate it ; this left a large cavity with solid walls, which he tried unsuccessfully to close. He packed it with iodoform gauze and stitched it to the wound margins. Unfortunately, the patient died on the third day. This biassed him against enucleation. The fibroid was on the posterior wall, and there was much tension. In such a case he would now do hysterectomy ; but if he did enucleation, he thought he would drain through the vagina. What was the relative mortality of enucleation and pan hysterectomy ? They were anxious to preserve organs ; but, after all, the first thing was to preserve life ; and he thought there was no doubt that the mortality of enucleation was twice as great as that of hysterectomy. In the case shown in Dr. Alexander's figure, of the uterus removed from the patient who died, it seemed to him that the patient would have been better, had she lived without a uterus at all, than with such a ragged uterus. He did not think that enucleation would take the place of hysterectomy.

The PRESIDENT said they were much indebted to Dr. Alexander for bringing forward this subject ; it needed much boldness on the part of a surgeon to bring forward a discredited operation, and enucleation had been almost



abandoned both in England and abroad, even in the case of a large single tumour, as first practised by the late Sir Spencer Wells. Martin, of Berlin, after a large experience, abandoned it because of his mortality. Péan and Schröder had also given it up. In Dr. Alexander's paper one case was reported as having died from the operation, but *post-mortem* examinations were made in three cases, and it was well to look at the ultimate uncertain results of a mangled uterus and compare them with the certain results of hysterectomy. Of Dr. Alexander's cases that survived, one had phlebitis, another had an ugly sinus. The mortality of hysterectomy in skilled hands was only 7 to 9 per cent. As regards age, most of Dr. Alexander's cases were fairly well advanced, and consequently past the child-bearing time. Dr. Alexander had remarked that the removal of a fibroid uterus by the vagina was a Chinese puzzle; but performed in the proper way it could be done with comparative ease and safety. Dr. Alexander really put the whole matter in a nutshell when he said in his paper: "Granted a low mortality, the non-mutilation of the patient should give this operation a tremendous advantage over the other deprivative operations." But they had not time as yet to judge of Dr. Alexander's results, as his cases were of too recent a date.

Dr. ALEXANDER, in reply, thanked the Fellows for the way in which they had received his paper, and for their frank criticisms. He would answer the points raised *seriatim*. As regards oozing: this was his great fear when he began the operation; and one of his main points was to guard against it, but he was surprised to find how small the amount was. At first he used perchloride of iron, but now he packed with iodoform gauze. He only made one opening into the uterus; this was an essential part of the operation; and owing to the stitching of the edges of this one opening to the abdominal incision, no hæmorrhage could take place into the abdominal cavity. Further, in hysterectomy if one artery were allowed to escape it meant

grave risk, but this was not the case with enucleation ; in fact, by keeping to the mid-line of the uterus there was no need to tie the uterine artery. As regards convalescence, this was long when perchloride of iron was used, in the other cases it was no doubt longer than after hysterectomy, but not much ; but in his cases it seemed longer because the patients were allowed to stay in hospital till they were strong. The operation itself took half to one hour, and was really shorter than hysterectomy. As regards the sinus, this resulted at first because he was afraid to use catgut, and so employed silk in his early cases. When he used catgut, no sinus resulted, but he would point out that a sinus might result after ovariectomy. He did not advise interference in all cases of fibroid ; he only took it for granted that they had to be operated on sometimes, and in such cases the operation could be done earlier than hysterectomy, and without mutilating the patient. The question of leaving fibroids behind was an important one, and the case mentioned by Mr. Christopher Martin was very much to the point. It was too soon to speak of late results, but he might remark that the opening of the uterus often interfered with the life of a fibroid, and he believed that it would not often be necessary to operate a second time. Moreover by his operation the uterus could be searched completely and it was very easy to tell if there were any nodules left behind. He knew the operation had been tried and given up ; but this was no reason for not trying it again : he might mention that after he had brought out his operation on the round ligament he found that it had been tried and given up three times. In reply to Dr. Bantock's question, if there were a fibroid in front and one behind, both could be brought out through one incision, as in one of the cases on his list. He did not say the operation was suitable for all cases ; but it was at least of wide application. It had been urged that a mauled uterus was no use, but it was surprising what nature could do with their rough work : and a mauled uterus might recover and perform its func-

tions. But this was a point for the future to decide. As regards the mortality, one patient died from the operation, a second died seven weeks later of brain disease, and a third eight months later of cancer of the liver. The last two could not be in any way attributed to the operation; this brought the mortality to 1 in 11, or 9 per cent. Since beginning enucleation he had done hysterectomy only once, and in that case because there was very little tissue covering the myoma. He thought that enucleation would at least give them another alternative to hysterectomy.

ORIGINAL COMMUNICATIONS.

EXTRA-UTERINE PREGNANCY.<sup>1</sup>

By JOHN W. TAYLOR, F.R.C.S.Eng.

LECTURE I.—TUBAL PREGNANCY AND ITS EARLIER  
COMPLICATIONS.

*I. Introductory and Historical.*

MR. DEAN AND GENTLEMEN,—On looking over the whole domain of practical medicine there is, perhaps, no one disease which, during recent years, has so notably emerged from obscurity into prominence, about which more has been learnt, and in the treatment of which more has been achieved, than that which I have taken as the subject of the Ingleby Lectures for 1898.

Some twenty years ago, the advance of which I have spoken received its first impetus from the initial work of one of my predecessors in this lectureship, Mr. Lawson Tait, and from the remarkable book of Dr. Parry, which was founded on the records of 500 cases, and still remains a model of patient investigation and labour.

Although several operations had been undertaken for the removal of an extra-uterine foetus, at or beyond the normal period of gestation, and at least one case of early extra-uterine gestation had been successfully relieved by vaginal section (Dr. Thomas, February 7, 1875, *New York Medical Journal*, June 1875), no operative effort had been made at this time to control the hæmorrhage due to rupture of the sac and to save the victim of fatal intra-peritoneal

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<sup>1</sup> Ingleby Lectures for 1898.

bleeding ; and Dr. Parry when dealing with this condition, wrote in words, which have been frequently quoted, but may even still bear repetition :—"A bleeding vessel through which the red stream of life is rushing away, can be ligated. A gangrenous limb, which is destroying its possessor by sending its poisonous emanations to the remotest regions of his body, can be amputated. A cancerous breast, which is sapping the vitality of its victim hour by hour, can be removed with the prospect of temporary relief. An aneurism that places life in constant jeopardy can often be cured by proximal or distal ligation. The tumultuous motion of a heart organically diseased may be quieted till nature restores the balance, after which the person may enjoy a long and even a useful life. Even phthisis now counts its many cures ; but here is an accident which may happen to any wife in the most useful period of her existence, which good authorities have said is never cured, and for which, even in this age when science and art boast of such high attainments, no remedy, either medical or surgical, has been tried with a single success. From the middle of the eleventh century, when Albucasis described the first known case of extra-uterine pregnancy, men have doubtless watched the life ebb rapidly from the pale victim of this accident, as the torrent of blood is poured into the abdominal cavity, but have never raised a hand to help her. Surely this is an anomaly, and it has no parallel in the whole history of human injuries. The fact seems incredible, for if one life is saved by active interference it may be triumphantly pointed to as the first and only instance of the kind on record. In the whole domain of surgery, for we cannot look to other than surgical measures under the circumstances, there is now left no field like this. . . . The only remedy that can be proposed to rescue a woman under these unfortunate circumstances is gastrotomy, to open the abdomen, tie the bleeding vessels, or to remove the sac entire."

This definite appeal or challenge to surgery for the

rational treatment of tubal rupture, written in 1875, and repeated with more or less force by many of the older gynaecologists (who yet lacked the courage to act upon their convictions), was finally taken up by Mr. Tait, who deliberately operated for tubal rupture in 1883.

His practice was soon followed by other surgeons, both at home and abroad, and the era of surgical treatment for intra-peritoneal hæmorrhage, due to tubal rupture, was definitely started. How fertile this has been, how many lives have been saved by this advance in surgical treatment, it is almost impossible to estimate, but we know that no important operation of modern surgery has been more successful than this, and the work that has been done has led and is still leading to a better knowledge of the disease, its consequences and complications, so that every few years since this date has brought increase of light, increase of resource and increase of promise for the future.

The lesions found and specimens removed as a result of operation during the earlier period of gestation soon established the fact that all cases of extra-uterine pregnancy (as Mr. Tait had already contended) were originally tubal or interstitial, and therefore, that the varieties which had been described by former observers, could all be traced to a tubal origin. Later, one of these varieties, the sub-peritoneo-pelvic or sub-peritoneo-abdominal form of "broad ligament pregnancy" was very fully investigated and described by Dr. Berry Hart and Mr. Carter, and their monograph remains our standard of reference for the general method in which the peritoneum may be displaced by the growth of this variety, and for the actual conditions found in two examples. Later still, Mr. Bland Sutton drew our attention to the condition known as "tubal mole" and "tubal abortion," in which the Fallopian tube affected by the misplaced pregnancy is found to contain an apoplectic ovum instead of a growing foetus.

Following up these investigations, I showed before the Gynæcological Society in 1894, that the abdominal ostium

of the tube in these cases commonly remained open, and that intra-peritoneal hæmatocele, whenever it was found, could usually be traced to the blood-drip from the fimbriated end of a tube in which a mole of pregnancy had formed, the special peculiarities assumed by such hæmatoceles being considered and explained. These observations and conclusions were confirmed by those of Dr. Cullingworth, and the existence of intra-peritoneal hæmatocele, a definite tumour due to intra-peritoneal hæmorrhage (which had been apparently denied by some authors), has not only been again established, but its special relation to tubal mole and to bleeding from the unruptured tube, is now accepted by the best of modern writers.

There are still other points in connection with the subject of extra-uterine pregnancy that demand some further investigation and fuller explanation. One of the most important of these is the exact history and condition of the variety known as abdominal or ventral. That this is a direct secondary development of tubal pregnancy, was held by myself in the report of a case which I brought before the Obstetrical Society in 1891, and again before the Gynæcological Society in 1892. It was exhaustively proved also in Dr. Croom's case by the *post-mortem* examinations and reports of Dr. Clarence Webster, but the cases were of somewhat different type and have failed to leave sufficient impress on the current literature and teaching of the day.

In the course of these lectures I hope to be able not only to show that this abdominal or ventral pregnancy is not, as Mr. Tait and Mr. Bland Sutton have held, a mere secondary result of the broad ligament form, but that it is a variety having only very rarely any connection with broad ligament pregnancy, a variety with subsidiary modifications under one or other of which it is possible to group all the cases of this kind that have been hitherto recorded.

I shall also endeavour to re-open certain questions connected with my subject, which although more or less dogmatically settled by past observers, appear to my mind to

be insufficiently explained, and to need for their consideration an open mind and a wider knowledge. To this part of my subject belongs the question of causation.

## *II. Causation.*

Every pregnancy is the result of the impregnation of the ovum of the female by the spermatozoon of the male, and the normal place for the development of the impregnated ovum is the cavity of the uterus, while the channel through which the ovum must pass from the ovary in order to gain the uterine cavity is the Fallopian tube.

The tube may be regarded as specially fitted to be this channel for the reception and transit of the ovum. The delicate plications of its mucous membrane (seen best when

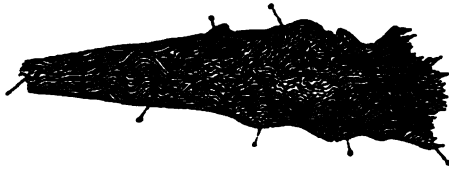


FIG. 1.

floated under water as in the accompanying illustration) form the lightest and most delicate of resting places, while the innumerable cilia of its epithelium waving always towards the uterus tend to sweep the ovum onwards and outwards. These plications with their waving cilia are not confined to the tube itself, but are continued over the border at the fimbriated extremity into the peritoneal cavity and usually stretch in unbroken line from the tube to the ovary itself. Sometimes this "ovarian fimbria" is remarkably full and broad (as in the figure) while accessory fimbriæ both around the abdominal ostium and on the sides of the broad ligament complete an apparatus for the direction of the ovum, which must cause a marked and ceaseless current from the ovary to the tube. Rarely an accessory ostium is found as in fig. 2. In this way the



ovum when shed is swept into the abdominal ostium of the Fallopian tube. But when the ovum has entered the tube it may be considered as doubtful whether its progress is continuous and uninterrupted until it enters the uterine



OVARY.

FIG. 2.

cavity. The adult Fallopian tube is convoluted, and at every bend or turn is bound down by fibrous bands beneath the serous covering (fig. 3). Each of these forms a ridge or elevation within the tube, which must be somewhat difficult



FIG. 3.

to pass, and the progress of the ovum is probably retarded at each bend of the tube by the presence of these bands. Whereabouts in its passage does the ovum meet the spermatozoon and become impregnated?

Dr. Ingleby, in whose honour these lectures were instituted, suggested in 1834 that there was no fixed place where impregnation occurred, but that anywhere during its descent, whether in tube or uterus, it was possible for the conception to take place.

More modern writers, on the other hand, have usually assumed that normal impregnation occurs only in the uterus. Mr. Tait writes, "the uterus alone is the seat of normal conception," and "the function of the ciliated lining of the Fallopian tube is to prevent spermatozoa from entering them;" while Mr. Bland Sutton states, "It is reasonable to believe that fertilisation normally happens in the uterus, but when it occurs in the tubes it is accidental, and tubal gestation is the consequence."

The only ground for this belief appears to be the fact that the normal attachment and development of the impregnated ovum is within the cavity of the uterus.

It was formerly held that the direction of ciliary movement in the uterus was from the cervix to the fundus, while that in the Fallopian tubes was from the fimbriæ to the uterus; therefore that the passage of the spermatozoon was helped by ciliary movement towards the fundus of the uterus, while the passage of the ovum was similarly assisted from the fimbriated end of the tube towards the fundus. On this hypothesis it was reasonable to suppose that the fundus was the normal meeting place of the spermatozoon and the ovum, and that here normal impregnation alone took place. But during recent years the direction of ciliary movement within the uterus has been ascertained to be quite otherwise, both in animals and women—an examination of the freshly extirpated uterus by Hofmeier proving that the direction of this movement is from the fundus to the cervix, and therefore that its direction throughout, from the fimbriated end of the Fallopian tube to the neck of the uterus, is wholly in a downward and outward direction. This being the case, the function of ciliary movement cannot be (as Mr. Tait supposes) to prevent the entrance of sperma-

tozoa or none could enter the uterus. On the contrary, it has been directly proved that the active movements of the spermatozoa are quite sufficient to carry them against the current of ciliary movement, and human spermatozoa have been actually discovered in the Fallopian tubes after extirpation of the appendages (Dührssen).

Many years ago (in 1838) Bischoff and Barry discovered spermatozoa on the surface of the ovaries of bitches, some time after copulation (Parry, p. 45). Mr. Tait, referring to these and similar researches on the lower animals, writes as follows : "Spermatozoa have been found high up in the cornua of the bipartite uteri, and these cornua have been erroneously supposed to be Fallopian



FIG. 4.—Horn of uterus of bitch (recently delivered). Ovarian chamber laid open; Fallopian tube coursing over ovarian chamber; bristle passed into fimbriated end of tube.

tubes, whilst they are nothing of the kind. The Fallopian tubes do not exist save in the higher order of animals, who have assumed the upright position." This criticism unfortunately appears to be founded on error. The Fallopian tubes *do* exist in the lower animals, and are very perfect structures in the dog, and sheep, and heifer, as I have proved by personal dissection. That of the dog (or bitch) may be seen in the accompanying sketch. It proceeds from one side of the cornu of the bipartite uterus (which is otherwise completely closed) and after a winding course over the ovarian chamber—a membranous sac enclosing the ovary

—it opens by a well-marked fimbriated extremity within the ovarian chamber itself. Consequently any spermatozoa found on the surface of the ovary must have passed not only through the cornu of the uterus, but through the whole length of the Fallopian tube also.

Dr. Strassmann, who has quite recently collected considerable evidence on the subject of conception, writes as follows: "Fructification, the union of the ovum with the spermatozoon, takes place in the Fallopian tube probably at the fimbriated end, and immediately after the exit of the ovum from the follicle (Bischoff-His). Accordingly, we may draw the conclusion that each pregnancy begins as an extra-uterine one, and that an extra-uterine pregnancy is a consequence of retarded movement of the fructified ovum."

This probably goes too far. The uterine ostium of the Fallopian tube when contracted cannot favour the ingress of spermatozoa to the tube, and the entrance (or not) of spermatozoa must depend largely on the dilatation (or contraction) of the ostium. Sometimes the passage from the uterus to the abdomen must be very free, and especially so when the cervix is dilated. In six cases Döderlein experimentally injected coloured solutions into the dilated uterus before its removal by vaginal hysterectomy. In all but one of the cases the solution passed into the peritoneal cavity (*Centralbl. für Gynäk.*, p. 25). On the other hand, the frequent use of intra-uterine injections, without abdominal disturbance resulting, appears to show that this open and pervious state of the tubes is not a common or invariable condition.

That the normal tube admits the entrance of spermatozoa, but is not the special "receptaculum seminis," seems proved by the researches of Prof. Dührssen, who in his Vaginal Cœliotomies for retroflexion in married women has frequently pressed a cover-glass against the abdominal ostium and examined for spermatozoa. In most of his investigations he met with a negative result, but in some, spermatozoa

were recognised, although degenerated and motionless. (*Arch. für Gynäk.*, B. 54, H. 2, 297).

The truth evidently lies between the two extremes.

We may hold with reason that there is no evidence whatever for the belief that the seat of normal impregnation is limited to the cavity of the uterus, while the facts which are known concerning the invasion of the tubes by spermatozoa unmistakably point to the conclusion that normal fructification of the ovum may occur at any stage of its passage from the ovary to the uterus.

But if normal impregnation often occurs within the Fallopian tube, the latter has an important function which at present is altogether disregarded. If the tube has to convey the fructified ovum as well as the unimpregnated ovule into the cavity of the uterus, other forces than ciliary movement may be necessary, and any mechanical impediment to the delivery of the ovum from the tube into the uterus may be a cause of misplaced pregnancy. The fructified ovum is subject to definite growth (in the second week it is from 3 to 6 mm. in diameter), and though it probably soon passes from the tube into the uterus, it is evident that any want of development in the tube, any permanent contraction, any swelling of the mucous membrane, any abnormal length of the tube, any extra weight or impaired mobility of the ovum at its entrance to the tube, any failure of muscular power, or any interference with the peristaltic action of the tube, if this be needed for propulsion of the ovum, may increase the tendency towards a tubal instead of a uterine "settling" of the ovum.

It has been objected by Mr. Bland Sutton that tubal pregnancy cannot be explained by obstruction to the transit of ova because the "oöperm" (fructified ovum) is more often retained in the wide ampullary section of the tube than in its uterine segment, and if delay or stoppage during transit of the fructified ovum always depended on the inadequate size of an otherwise normal tube, the criticism would have considerable, or even fatal, force. This can only be

one among many causes for delay, and it is probably a rare cause. Still it is interesting to note that in a special class of cases, the cases of early rupture—in which the tube, as we shall see, is ill-developed or somewhat atrophied—it is precisely at this point, or just outside the uterine segment of the tube, that arrest most frequently takes place and the pregnancy develops. On the other hand, at the outer extremity of the tube, near the expanded ostium, where not infrequently a tubal pregnancy is found, it is evident that a totally different cause or set of causes may account for retarded progress or arrest of the impregnated ovum and consecutive attachment. Here the in-going tubal current, which, whether due altogether to the movement of the cilia or not, has been proved experimentally to exist, may lack the power to sweep the oöperm into the lumen of the tube; the ovum itself, if prematurely fertilised, may soon increase in size and weight, and the fimbriated extremity of the open tube may fail to surround or grasp it sufficiently for any muscular (peristaltic) action to be applied to it. That such an action of the tube is possible seems proved by the history of some of the cases of so-called “tubal abortion” which occur in this situation. In these cases, after attachment of the fructified ovum and some development, and after the size of the ovum has been increased by sub-chorionic bleeding, the tube may contract on its contents, separate the attachments, and extrude or “vomit” the mole of pregnancy out of the tube into the pelvis.

If the tube possesses this reverse action when the conditions are altogether unfavourable for any movement in the ovum, it is surely reasonable to suppose that when the conditions are favourable, when the ovum is smaller, and there is no attachment, natural peristalsis occurs in the normal direction from the tube towards the uterus. The activity (or otherwise) of this, depending, as it must, not only on the part of the tube involved but also on the nerve influence and on the development of the muscular coat, cannot fail to have its bearing on the progress of the ovum.

In other cases, perhaps in the majority of cases, the arrest of the fructified ovum is probably determined by swelling of the mucosa. It is in the middle and outer portions of the tube and not towards the uterine segment that the wonderful plications of its mucous membrane are most luxuriantly developed, and any source of swelling affecting these would naturally attain the most obstructive power in the central portion of the tube. Such a positive source of obstruction is described in detail by Dr. Webster, as produced by the occasional formation of a special swelling and growth in the deeper layers of the tubal mucosa, a swelling which somewhat closely simulates that of the uterine decidua. With perhaps questionable wisdom Dr. Webster speaks of this as the tubal decidua—questionable, for no one has been able to detect in the pregnant tube anything macroscopically approaching to the decidual membrane of the uterus, but there can be no doubt that his sections and specimens, as well as those of some German writers, show changes in the mucosa of the tube, which, whether strictly analogous to those taking place in the uterus at the formation of the decidua or not, do form definite localised swellings which may mechanically arrest the progress of the ovum during its journey down the Fallopian tube.

Mr. Tait and some other writers have held that a pre-existing desquamative salpingitis is the cause of ectopic gestation, and that most cases of extra-uterine pregnancy have a previous history of inflammatory mischief of the uterine appendages. I have not found this in my own experience. In 37 cases no certain evidence could be elicited of any pre-existing inflammation, and the patients were remarkably free from any suspicion of gonorrhœa or syphilis. Mr. Bland Sutton writes: "In many instances I have failed even after the most careful microscopic examination to find any evidence of old salpingitis or loss of epithelium," and again, "the evidence now indicates that a healthy Fallopian tube is more likely to become gravid

than one that has been inflamed." Mr. Tait's opinion is avowedly grounded on the theory that the impregnated ovum requires a raw, denuded or wound-surface for its settling, and that this is normally provided in the uterus through the process of menstruation in which the epithelial coat is shed.

Extended consideration and investigation have not tended to confirm our belief in this theory. On the contrary the more it is considered, the greater are the objections which can be urged against it.

As Clarence Webster and Strassmann have pointed out, menstruation is by no means a necessary precursor of pregnancy. Pregnancy may take place in a girl who has never menstruated, in a woman who is suckling and has not menstruated since her "lying-in," in women who have amenorrhœa from other causes, as from chronic phthisis and anæmia. Very occasionally too, we meet with fertile women who have only very rarely menstruated, and in whom no history of a period is found corresponding to the onset of pregnancy.

The very facts, or supposed facts, behind the theory are now disputed. It is very questionable whether the epithelium is removed to any extent by menstruation, and the more recent observations appear to show that no true wound-surface is provided by this process for the engrafting of the ovum.

*The ante-menstrual* period, when the monthly swelling and congestion of the uterine mucous membrane attains its maximum, is now with more reason regarded as affording the best conditions for the "settling" of the ovum; in fact, each monthly swelling of the mucous membrane of the uterus may be regarded as the tentative preparation for a possible pregnancy. If the "down-wandering" ovum is fertilised, the swelling increases, a uterine decidua is formed. This catches and embeds the wandering ovum. No menstruation occurs. The woman is pregnant.

If, on the other hand, the ovum be not fertilised, the



tentative swelling is carried no further, menstruation begins and the swelling of the uterine mucous membrane dwindles away by and during the process of menstruation. For the time being the chance of pregnancy is lost. This view is strongly supported by the evidence derived from the current practice of nearly all large gynæcological clinics. If a patient has menstruated within two or three weeks, the sound, if necessary, is passed without hesitation, and this without a single known instance of early miscarriage resulting, while, if the menstrual period be almost or altogether due, passage of the sound is by no means free from danger in this respect.

Instead, then, of menstruation fitting the uterus for the reception of the ovum, it is more probably a sign that the fitting period has passed. The period, I repeat, of the *ante-menstrual* swelling, when the sides of the uterus are in apposition, is that most favourable for the "settling" of the ovum.



FIG. 5.—From Dührssen.

If this reasoning be true as regards the uterus, it tends to greatly increase the importance of the researches of those who have detected decidua-like swellings of the tubal mucosa. Whether this tissue has any specific action is probably very questionable, but the swollen mucous membrane may undoubtedly sometimes arrest the impregnated ovum and so determine the site of its development.

Very rarely a tubal polypus has been found on the uterine side of a tubal pregnancy. One case of this kind has been recently described in detail by Professor Dührssen (fig. 5). The little polypus appears to have formed a perfect ball-valve to the uterine end of the tube, the passage of the

tube from the uterus to the ovary being free from difficulty, while that from the ovary to the uterus was absolutely stopped by the polypus. On the ovarian side of the polypus the pregnancy had developed.

Again, a tubal pregnancy has been found on the ovarian or outer side of a myoma ; the passage into the proper uterine cavity being evidently blocked by the myoma. Dr. Cullingworth has quite recently shown a very valuable specimen of this kind at a meeting of the Obstetrical Society. These cases, although too rare perhaps to warrant any general deductions from them, tend undoubtedly to strengthen the argument of mechanical obstruction as an important factor in causation. Sometimes fixation or stretching of the tube is found in connection with a tubal pregnancy, and then may reasonably be regarded as having been a source of delay or obstruction to the passage of the impregnated ovum.

In three of my cases tubal pregnancy was found associated with ovarian cystomata, one of them a dermoid of considerable size, and in all of these the tube had been fixed or distorted by the growth of the cyst or by accompanying adhesions.

To briefly recapitulate :

Normal impregnation of the ovum is not limited to the uterus, but may occur anywhere in the Fallopian tube or immediately on the exit of the ovum from the ovary.

Normal attachment and development is limited to the uterus only.

Abnormal arrest of the impregnated ovum, whether mechanical or special, in its progress towards the uterus is the determining factor of a misplaced pregnancy. An extra-uterine pregnancy, therefore, is the consequence of the permanent arrest of a fructified ovum in its passage from the ovary to the uterus. Theoretically, this arrest may occur :—(1) in the ovary ; (2) in the abdominal cavity between the ovary and tube ; (3) within the tube ; (4) between the tube and uterus.

The first is theoretical only. It is possible, but absolute proof of such a pregnancy seems still to be incomplete. There are, as we shall see, conditions of intra-ligamentary position of the ovum, and also of encapsulated hæmatocele around the ovum, in both of which the ovary may form part of the outer wall of the sac containing the pregnancy. Later on, this becomes stretched and thin, owing to inside pressure from the growing pregnancy, and sections of the sac and outer wall discovering the presence of ovarian tissue may wrongly lead to the conclusion that the pregnancy is ovarian.

The conditions described need careful elimination before any pregnancy can be held to be strictly ovarian in origin.

The second, "arrest in the abdominal cavity between the ovary and the tube," is probably always immediately fatal to the unprotected ovum, and consequently may be eliminated from discussion.

The fourth point of arrest, between the tube and uterus, may quite as correctly be regarded as arrest in the uterine portion of the Fallopian tube, so that for all intents and purposes we have to do at the outset with one kind only—*arrest within the tube or tubal pregnancy*. All other varieties are later developments of tubal pregnancy, and are caused by secondary invasion from the Fallopian tube of some other tissue or organ. These are conveniently divided into three groups or divisions :—

(1) *The tubo-abdominal* (abdominal or ventral) pregnancy, in which there is secondary invasion of the abdomen.

(2) *The tubo-ligamentary* (mesometric or broad ligament) pregnancy, in which there is secondary invasion of the broad ligament and sub-peritoneal tissues.

(3) *The tubo-uterine* or interstitial pregnancy, in which there is secondary invasion of the uterus.

These will be considered in detail after the earlier stages of tubal pregnancy have been dealt with.

Time will not allow me to deal as I should like with the earliest life history of the growing tubal pregnancy. I must

pass over much of this with the merest notice that its growth is attended by very marked increase in the vascularity of the tube and mesosalpinx, and that a decidua, so far as we know, invariably forms in the uterus.

### *III. The Earlier Disturbances of Tubal Pregnancy.*

1. Early Rupture of the Tube.
2. Tubal Mole.
3. Later Rupture of the Tube.

Most tubal pregnancies are abortive. Some become so at a very early stage, the pregnancy resulting in *early rupture of the tube*. Others grow for a few weeks and then are injured by hæmorrhage from their own vessels, *a tubal mole* forming within the unruptured tube. Others again attain a much greater degree of development and then cause rupture of the tube, perishing in the process, either directly from the hæmorrhage and dislocation, or indirectly from the death of the patient or from the hand of the surgeon who removes the pregnancy. These cases will be considered under the heading of *later rupture of the tube*. It is only the minority of cases in which these dangers are averted by some more or less accidental method of growth and of extrusion from the tube, and in which the pregnancy goes to term within the organism of the mother.

(1) *Early rupture of the tube* from a pregnancy of from two to five or six weeks' standing is a special phenomenon of extra-uterine pregnancy, which has not as yet received the recognition and consideration it deserves. As a disease or accident it stands quite alone. There is no warning of danger, there are often no physical signs, there is no symptom before that of sudden and copious bleeding, and any history of pregnancy is either altogether wanting or is represented only by an account of menstruation delayed for one week or even less. A good example of this class of case may be taken from Mr. Tait's book (p. 18). "On November 2, 1889, at 1.30 p.m., Mrs. ——— was seized with

pain in the abdomen, followed by vomiting and faintness. Dr. Guthrie Rankin was called in, the pain was relieved by an opiate ; but collapse occurred and death ensued at nine o'clock the same evening. She was the mother of three children, suckling the youngest, aged seven months, of good constitution, with no history of previous illness. At the *post-mortem* examination the abdomen was found full of clots estimated at from seventy to eighty ounces. The left Fallopian tube presented an ovoid swelling which had been ruptured and was full of blood-clots ; on examination this swelling proved to be a tubal pregnancy, of certainly not more than five weeks. The rupture which caused death was not larger than a pea."

In this case death ensued after an illness of only seven and a half hours' duration, the fatal result being exceptionally sudden. The more usual duration is from twelve to forty-eight hours. Two cases from my own practice will illustrate this portion of my subject.

Mrs. A., aged 33, having one child, six years of age, had been menstruating regularly for upwards of a year, until December 23, 1891, that being the date of the last normal period. On January 20 there was a very slight hæmorrhagic discharge, but menstruation did not follow. On January 28 she was troubled with abdominal pain, and in the evening she was sick, and the pulse which had been about 80 rose to 120. She passed a fair night, but was again sick in the morning, and the pulse rose rapidly to 140. I saw her in consultation with Dr. Bernays at 11 a.m. She was then faint and pallid, but fully conscious, with a quick pulse and distended abdomen. A soft doughy mass was to be felt filling the pouch of Douglas behind the uterus. I diagnosed the condition as due to ruptured tubal pregnancy, and advised operation.

When this was done two hours later, the patient's condition had become exceedingly grave. As I opened the abdomen the blood gushed out like the fluid in ascites, and it was evident that the distension of the abdomen had been

mainly due to the collection of blood within it. The rupture was found in the left Fallopian tube, which was the seat of an early pregnancy near, but not quite close to, the uterus. The tube was small and atrophic. This with its corresponding ovary was removed. The patient made a good recovery.

Mrs. B., aged 30, having had one child nine years ago, and one miscarriage five years ago, had been menstruating regularly since the date of the miscarriage, until some two months before I saw her. The last period had been delayed for one week but on its appearance was normal in its course. This again had been followed by amenorrhoea of five weeks' standing. On the evening of July 13, 1895, she had some slight abdominal pain for which she herself attended the consulting rooms of Dr. Shillito. I met him in consultation on the 15th and found general abdominal distension with vomiting and faintness, marked pallor of the face and lips, and a running pulse (150). On examination a doubtful boggy fulness was felt in the pouch of Douglas. The diagnosis was made of tubal rupture. Abdominal section about midnight on the 15th disclosed an early pregnancy of the left tube with linear rupture near the uterus. The appendages were removed. Recovery.

In both of these cases the patients were almost moribund at the time of operation. In the last case the illness was then of forty-eight hours' standing, in the other of about sixteen hours only. In neither case was there any evidence of previous bleeding, nor any symptom before the sudden illness which I have reported.

In these cases of early rupture it is important to notice that but little or no change takes place in the affected tube except at the exact seat of pregnancy and rupture. This may be found at any part in the course of the tube except at the fimbriated extremity, but its favourite situation is near to the uterus, on the tubal side of the uterine ostium.

There is no closure of the abdominal end of the tube

and no swelling of the tube except at the site of pregnancy. On the contrary, the condition found on operation appears to show that the tube is often ill-developed and small, the muscular coat defective, and the uterine ostium contracted. The remains of the tube enclosing the pregnancy are thin and papery, and there is no evidence whatever of the slightest attempt at any compensatory growth surrounding the affected area. I have operated on four cases of this class and in all of these the conditions were essentially as here described. In one case the atrophic state of the tube was very marked and can be still recognised on simple inspection of the specimen. The Fallopian tube in this

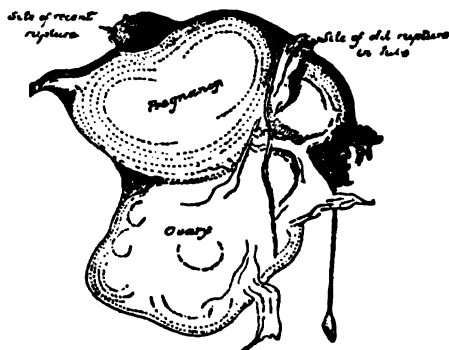


FIG. 6.

instance presents the very unusual features of double rupture, having been twice the seat of an extra-uterine pregnancy. The first tubal pregnancy occurred in 1889. This resulted in rupture with limited hæmorrhage at the sixth week. Peritonitis followed, and a hæmatocele formed which was slowly absorbed after six or seven weeks' rest in bed, the whole of the illness being passed under my own personal observation. Two years later (in 1891) another pregnancy took place in the same tube, the history of which has already been recorded.

On examination of the specimen then removed the

original rupture of 1889 may be clearly seen surrounded by the remains of old adhesions, while the more recent rupture is marked by protruding blood-clot and membrane near the uterine end of the tube. This end of the tube is notably small and thin, and the slender sheath of muscle tissue in it is almost microscopic. At the site of the pregnancy, just beyond this, no muscular coat can be seen at all, and the black clot of the ruptured pregnancy is everywhere visible beneath the thin peritoneal investment which marks all that remains of the dilated tube in this situation. The atrophic state of the tube, so well displayed in this specimen, is probably the important factor both in the causation of the disease and in its termination by early rupture. The Fallopian tube has not had the muscular strength necessary to extrude the fructified ovum into the cavity of the uterus, arrest near the uterine end of the tube has been followed by fixation and growth of the ovum, and for want of any substance in the enveloping tube, its necessary expansion has been almost immediately followed by rupture.

Although rarely present, perhaps, in so marked a degree as in this specimen, it is highly probable that some amount of non-development or atrophy of the tube is responsible for nearly all the cases of early rupture.

The condition may arise as the sequel of a previous pregnancy—some excess of involution affecting both uterus and tubes. In the rare case I have described it may have followed the previous tubal pregnancy, or it may have existed before this date (I have not the tube of the opposite side with which to compare it). There can be no doubt that the condition is a real one, and that its recognition and consideration will do much at present—and still more, I believe, in the future—to explain the phenomena attending a most important group of ectopic pregnancies.

Other specimens and histories extremely similar to those I have described may be found in our more important museums, and these abundantly show the frequent associa-



tion of early rupture and diffuse hæmorrhage with pregnancy of the uterine end of an atrophic or ill-developed tube, the course of which is unmarked by any alteration or adhesions except at the site of pregnancy, and the fimbriated end of which is open. As examples I may cite specimen No. 4695 of the Museum of the Royal College of Surgeons, presented by Dr. Walter Lowe, "From a woman, aged 33, who when not aware of being pregnant, was seized with severe abdominal pain and collapse during defæcation. She died within nine hours."

No. 2517<sup>69</sup> from Guy's Hospital Museum shows the rupture of an extra-uterine foetation of the sixth week. The pregnancy is close to the uterus, the coverings are very thin, and the fimbriated end of the tube is unaltered.

No. 2517<sup>88</sup> is a similar specimen of early rupture. The coverings are very thin. The tube is otherwise unaltered. The rupture is near the uterus. Death occurred in ten hours.

Specimen No. 90, in our Mason College Museum is a very good example. The tube is more like a folded piece of paper than an organ containing muscle structure. No. 79 is probably an example in which both of the Fallopian tubes were atrophic. The histories of these specimens are, however, not preserved.

Another good specimen is No. 2484, in St. Thomas' Hospital Museum. In this specimen the atrophy of the tubes on both sides is very evident, while the left tube near to its uterine end is the seat of an early pregnancy which has ruptured into the abdominal cavity. The patient died of "fatal peritonitis."

Sometimes the condition is found at the very first pregnancy, and then the want of development of the tube is probably congenital. Mrs. C., aged 30, had been married seven months. Menstruation had been perfectly regular, the last period occurring four weeks before the date of consultation. Some irregular hæmorrhage had taken place from the vagina for eight days. When seen by me the

patient was blanched from hæmorrhage, the abdomen was distended, and on examination the uterus was felt to be surrounded by a soft mass (of blood-clot) filling the pouch of Douglas. I opened the abdomen the same evening, and found it full of fluid blood and blood-clot. The left Fallopian tube was ruptured close to its uterine end and was removed. The covering of the pregnancy was everywhere thin and semi-transparent, and appeared to consist of peritoneal coat only. The patient died during the third week from some slow septic (?) process attended with but little or no rise of temperature and exceedingly difficult to understand. The operation was done in a small house in the country, and the conditions may have been unsuitable and insanitary.

A specimen with very similar history is to be seen in the Museum of the Middlesex Hospital (No. 2050). In this case the rupture is near the fimbriated end of the tube, but the tube is small and ill-developed. The rupture is stated to have occurred at the first pregnancy and only one menstrual period had been passed.

It is interesting to notice that a paper by Prof. Dührssen (in a recent number of the *Archiv. f. Gynäk.*, which was published after this section had been written) to a very large extent confirms the view I have advanced regarding the association of tubal pregnancy with atrophy of the tube.

So far as I have been able to follow him Prof. Dührssen has not noticed any special relation between atrophy and earliest rupture of the tube—such as I have described—but his general conclusions are precisely similar, and are supported by the evidence of microscopical sections as well as by that derived from ordinary specimens.

(2) *The Tubal Mole*.—In a large number of cases pregnancy within the Fallopian tube results in the formation of a “tubal mole” at a very early stage of gestation. Hæmorrhage occurs (as Mr. Bland Sutton has explained) into the “sub-chorionic chamber” from the circulation of the embryo. In other words, blood is poured out into the space between

the amnion and chorion, the embryo is injured or destroyed, and a mole of pregnancy results in the same way as it does when a similar accident occurs within the uterus. In a very few cases (one is reported by Mr. Sutton) the mole is extruded from the Fallopian tube into the abdominal cavity, forming a true "tubal abortion." In by far the greater number of cases, however, the "mole" remains strongly attached at one part to the inner surface of the tube. This point of attachment marks the site of what would afterwards have been the placenta if the pregnancy had continued to develop, and some of the specimens of tubal mole afford good opportunities for examination into its usual extent and consistency. The union of the tube and ovum is remarkably firm in this situation, but the extent of the union is limited. The mole clings to the tube like a pedunculated polypus, all the circumference of the ovum except at the point of attachment being absolutely free. Until the placental site is differentiated from the rest of the chorion, and attachment is made, the fructified ovum is probably freely movable; as soon as the attachment is formed it steadily increases in strength and if the pregnancy goes on it is very probable that *no subsequent change will altogether separate the relations of ovum and tube*. This is not only of importance in the later stages of extra-uterine gestation, as we shall see hereafter, but even at this stage the attachment of the mole is a source of serious trouble. For although the pregnancy becomes abortive, it does not then become innocuous or quiescent. On the contrary the blighted ovum remains hanging from the inner surface of the tube. It is a source of continuous irritation and hyperæmia in the maternal tissues to which it clings, and is the cause of repeated and dangerous bleedings from the Fallopian tube into the abdominal cavity.

It is true that an attempt is made towards closure of the abdominal ostium of the tube. In acute gonorrhœal salpingitis, as is well known, this closure is usually complete, but in the sub-inflammatory processes occasioned by tubal mole

the salpingitis is much less marked, and the closure is incomplete. The tube becomes thickened and more vascular, and at the fimbriated end the ring where peritoneum ceases and mucous membrane begins is subject to a slow contraction that tends to partially confine the blood that is effused within the lumen of the tube. The consequent enlargement and dilatation of the tube on the uterine side of this ring of contraction withdraws some of the fimbriæ back within the tube, but the process rarely proceeds further than this in tubal mole. The abdominal ostium still remains patent though contracted, and is still marked by a small rosette of fimbriæ on its abdominal aspect.

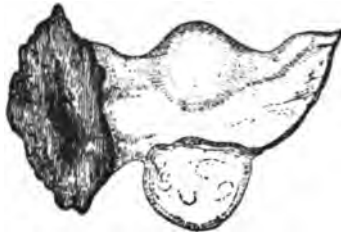


FIG. 7.

The external or peritoneal aspect of the tube is marked by a globular swelling corresponding to the situation of the "mole." This in the removed specimen is very characteristic. Apart from this, the changes which occur in the tube—in size, shape, position and mobility—are very much the same as in other cases of tubal enlargement. As a rule, and especially when the pregnancy is situated near the fimbriated end, the enlarged and heavier portion of the tube containing the mole falls directly behind the uterus, rotating somewhat as it does so, and therefore dragging over it and its corresponding ovary the free portion of the broad ligament to which it is attached (mesosalpinx). This takes place very early in the course of the complaint before any bleeding occurs or inflammatory adhesions form. Almost immedi-

ately afterwards, however, as we have already seen, bleeding begins both into the tube and from the abdominal ostium, inflammation follows, and the tube becomes increasingly distended and adherent. The tumour which was originally small, strictly posterior in position, moderately mobile, and well-defined, slowly extends to one side or the other, and instead of the small well-defined tumour, limited to the site of pregnancy, we have a complex mass consisting of tube, ovary, broad ligament, and blood clot, which tends to fill one side of the pelvis and finally displaces the uterus to the opposite side, pushing the opposite tube and ovary close up against the pelvic wall. The uterus itself is enlarged; a decidua has formed within it, and its consequent increase in bulk tends to accentuate the displacement. An attempt is made in the following sequence of illustrations to roughly depict the changes liable to occur in the tumour occasioned by a tubal mole. In all, the uterus and its appendages are sketched as seen from behind.

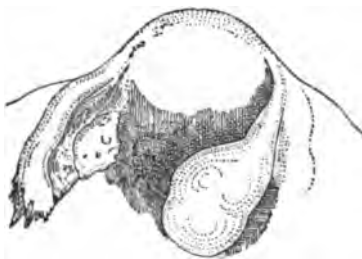


FIG. 8.

In the first we see the little tumour of the tubal pregnancy before any hæmorrhage has taken place.

It is movable, hanging freely in the tube, and tends to fall or settle (by its own weight) directly behind the uterus. At this stage it either has no effect at all on the position of the uterus, or tends to drag it backwards and also to displace it slightly towards the same side. In some cases the backward displacement of the uterus is very marked, amounting

to decided retro-flexion. In others (as in the fig.) the retro-flexion of the uterus is less marked. It is quite exceptional, however, for the uterus to be anteflexed, as it is so often in the early stage of normal pregnancy. The tumour of the pregnancy takes the most dependent position, and the fimbriated end of the tube is tilted up toward the ovary anterior to this and therefore out of sight.



FIG. 9.

In the next figure we see the tube generally distended with blood. The space beneath the mesosalpinx is also filled with blood-clot, and blood is escaping into the pouch of Douglas.

The complex tumour formed by the pregnancy—consisting now of the mole of pregnancy, distended tube, adherent ovary, and hæmatocele, covered more or less by the mesosalpinx—has become fixed by adhesions; it is extending outwards and upwards. It is beginning to fill the right side of the pelvis, and as it does so it pushes the uterus and opposite appendages decidedly to the left.

In the next illustration, which has been less easy to draw and therefore may be less easy to understand, we see the uterus has been pushed quite over to the left by the growing mass, so that it must now be close against the pelvic wall and rectum. Considerable hæmorrhage has taken place beyond and above the limits of the tube, and the tumour formed by this has been roofed in by adhering

omentum. The tumour almost fills the pelvis and is extending up into the abdomen above Poupart's ligament. If it continues to grow the uterus will be almost buried beneath it (fig. 10).

This tumour (of pregnancy and blood-clot) is usually on the same side of the body as the tube containing the pregnancy. But it is not always so. I have known one case (No. 22) in which, although the general configuration of the tumour was very much as I have been describing, the bulk of the tumour was on the opposite side of the body to that of the tube containing the pregnancy.



FIG. 10.

In this illustration—the last of the sequence—taken from the case I have mentioned—we see the left Fallopian tube crossing the back of the uterus from left to right, lengthened by the growth of the pregnancy and finally terminating in a large right-sided hæmatocele, which occupies the right iliac fossa as well as the pouch of Douglas (fig. 11). In other words, we have a left tubal pregnancy causing a right iliac hæmatocele. The uterus in this case suffers rather less lateral displacement than in the previous case, but it is strongly displaced forwards, being pressed against the pubes by the

tumour behind it. Sometimes again, the tumour is originally lateral in position and remains so throughout, the pouch of Douglas being comparatively empty. The tumour is then closely applied to the upper part of the body of the uterus, moves with it, and may easily be taken for some enlargement of the fundus itself.

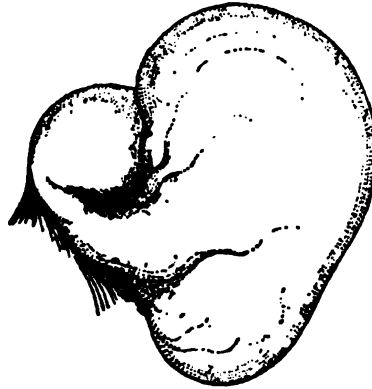


FIG. 11.

*Intra-peritoneal Hæmatocele*, which has been already incidentally referred to and partially described, is a pathological product concerning which much has been learnt during recent years.

In women it is almost always caused by tubal pregnancy, sometimes by rupture of the tube and sometimes by bleeding from the fimbriated end of the tube without rupture. The latter is the more common cause of intra-peritoneal hæmatocele, and this bleeding from the unruptured tube is usually set up by the presence of a hæmorrhagic mole within it.

Cases of tubal mole with intra-peritoneal bleeding from the open abdominal ostium probably outnumber the cases of tubal pregnancy with rupture of the tube; the hæmorrhage, though almost continuous, or frequently repeated, is moderate in amount, and a well-defined hæmatocele is the invariable sequel. On the other hand, cases of ruptured



tubal pregnancy only sometimes give rise to a definite hæmatocele. In fully half the number of cases the resulting hæmorrhage is "diffuse," no time or opportunity is afforded for the formation of a definite blood-tumour, but the hæmorrhage continues until stopped by operation or death. In the remaining cases, where a hæmatocele follows, the latter is often very unstable, subject to sudden and violent alterations from fresh bleeding, so that the tumour may be said to occupy a position midway between intra-peritoneal hæmatocele and diffuse hæmorrhage.

Occasional exceptions to the rule thus formulated are known. For instance, I have met with a case of tubal mole (Case 14), in which the hæmorrhage from the unruptured tube, although it resulted in an intra-peritoneal hæmatocele, was, after recurrence and rupture of the hæmatocele, fully as copious and dangerous as that which I have usually found after later rupture of the tube; and, again, I have known at least one case of rupture of the tube (Case 36) resulting in a definite and localised hæmatocele in which the bleeding was very moderate and the tumour resulting from it quite small in size. These exceptional cases, however, do not interfere with the general truth of the statement that rupture of the tube is specially liable to be followed by diffuse bleeding, while hæmorrhage from an unruptured tube containing a mole of pregnancy is essentially the most common cause of intra-peritoneal hæmatocele.

My own statistics on this point are as follows :—

Out of 21 cases of intra-peritoneal hæmatocele due to tubal pregnancy (in which the condition of the tube was carefully noted), I find that 14 were due to hæmorrhage from the unruptured tube, while 7 were associated with rupture of the tube.

Dr. Cullingworth's figures are still more striking. He states :—"Of 25 cases of pelvic hæmatocele in which an opportunity occurred of verifying by actual inspection the source of the bleeding, 23 were instances of hæmorrhage from the open abdominal ostium of a pregnant Fallopian tube, and only one was due to rupture."

The formation of the hæmatocele is a process full of interest. Much of this has been already described when treating of the tumour formed by the tubal mole. But when the bleeding has reached beyond the limits of the tube and ovary and uterus, when it invades the abdomen from the pelvis, how is it limited, and what is the process by which a more or less amorphous mass of blood-clot becomes welded or shaped into a definite tumour? It must be remembered that the living abdomen is always full. Consequently, when any blood is effused into the pelvis it is in contact with the pelvic viscera, at first with the tube, the ovary, and the turned-in fold of the broad ligament. Later on, omentum and intestine come into contact with the growing blood-clot, local peritonitis is set up by the hæmorrhage, the pelvic and abdominal viscera become adherent to the surface of the blood-clot and the latter is bounded everywhere by "peripheral adhesions" to surrounding organs. The intra-peritoneal hæmatocele is temporarily formed. But another process is going on beside this. The outer layer of the blood-clot consolidates into a more or less perfect sac, and in addition to the adhesions, the blood becomes encapsulated by a limiting layer or outer coat derived from its own substance or tissue. Sometimes the hæmorrhage within this capsule ceases altogether—in process of time the adherent viscera become detached and we may find a perfect sac remaining closely fitting round the abdominal mouth of the Fallopian tube, blood being found within it. This, which I have described elsewhere, is known as encapsulated hæmatocele, and examples of this condition are well seen in the specimens removed from Cases 7 and 8.

In the specimen from No. 7 (fig. 12) the sac of the hæmatocele is altogether independent of the ovary and tube, though the mouth of it was closely applied around the fimbriated end of the tube. In the specimen from No. 8 (fig. 13) the ovary is incorporated with the wall of the hæmatocele, while a mole of pregnancy is visibly distending

the unruptured tube. In the figure the tube has been withdrawn from the inside of the sac in order to show that it is uninjured and intact, but before the separation of the tube from the sac the latter in this case formed a marked tubo-

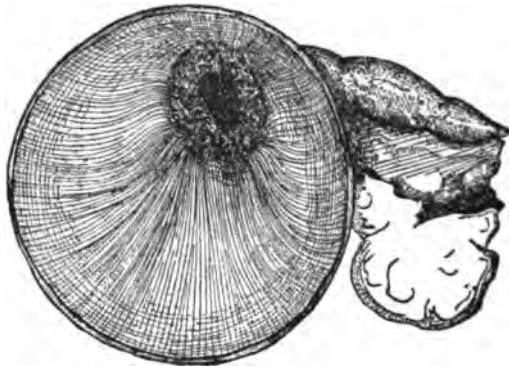


FIG. 12.

ovarian tumour which evidently might have given rise to the (unfounded) suspicion of an ovarian pregnancy. But it is only rarely that the hæmorrhage ceases on the immediate



FIG. 13.

formation of the hæmatocele. In nearly all cases of tubal pregnancy with hæmatocele the bleeding is recurrent. The source of the bleeding is the tube, and this is necessarily

now in the centre of the hæmatocele. The outer covering of the latter is stretched and distended ; somewhere it "gives" to the strain, fresh blood and blood-clot are forced through the rent or bulge through the weakened capsule into the abdomen, fresh local peritonitis occurs, fresh adhesions form, the rent is patched up, and the hæmatocele (greatly increased in size) again goes on.

In operating on a hæmatocele which has been formed in this way by several recurrent bleedings from the fimbriated end of an unruptured tube, what sort of a specimen do we remove ? The recent blood and blood-clot at the site of the last abdominal bleeding—the weakest part of the



FIG. 14.

hæmatocele—are involuntarily broken down by the hand on touching the tumour, this and the central part or contents of the hæmatocele are washed or scooped away, parts of the outer wall are broken off and left adhering to intestine or omentum, and when the Fallopian tube together with the remainder of the sac is ligatured and removed, we find the outer shell of the hæmatocele forming a curious ragged extension of the tube, and if we view the tattered remnants of the capsule from within, we may usually observe some fimbriæ of the tube at one point on the inner

wall. This marks the aperture of entrance from the tube into the hæmatocele. The following sketches of specimens removed from Cases 14, 12 and 9 show this very plainly. In fig. 14 we see a specimen which looks at first sight like a tubal pregnancy which has ruptured into the broad ligament, so extensive are the remnants of the capsule continuous with the tube. On careful section, however, we see that it is unruptured, that a large mole of pregnancy occupies the middle portion of the tube, that the outer end

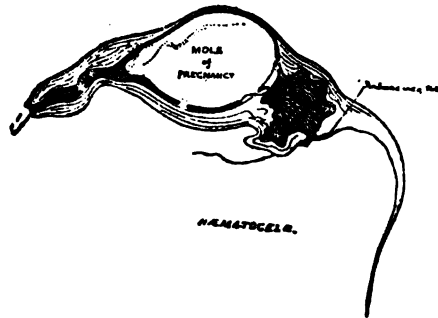


FIG. 15.

of the tube has been dilated by hæmorrhage and that the greater part of the tumour has been formed by the capsule of the hæmatocele on the inner surface of which the fimbriæ of the outer end of the tube abruptly terminate (fig. 15).

Similarly in figs. 16 and 17, although the remains of the hæmatocele capsule are much less extensive we may recognise in each the unruptured tube (complete from uterine end to fimbriæ) the mole distending one portion of the tube and the rosette of fimbriæ opening on the inner wall of the hæmatocele capsule.

The following case, to which the specimen depicted in the last illustration belongs, may be taken as fairly typical of the history associated with such tubal moles and blood tumours as I have been describing :—

Mrs. E. M., age 39, has been married for seventeen years.

She has five children, the youngest of whom is 11 years of age. Her last normal menstrual period was on June 3, 1892. She has had irregular uterine hæmorrhage since July 10.

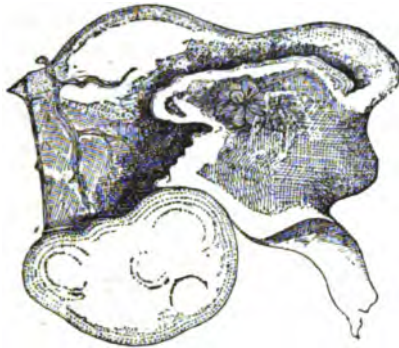


FIG. 16.

There is no clear history of the passage of any definite membrane but it is quite possible that shreds of membrane have passed with the discharge. She has been perfectly well until quite recently, and even now complains of



FIG. 17.

nothing but the menstrual irregularity and continued loss. This history was taken on her first visit to the hospital on August 26. On examination I found that the

uterus was retroflexed and that a small mass having all the characters of a tubal tumour was to be felt behind and to the right of the retroflexed uterus. The diagnosis was made of early extra-uterine pregnancy, but I had no vacant bed, and the patient was allowed to return to her home. On September 2 she began to suffer severe abdominal pain, and this date probably marks the beginning of intra-peritoneal hæmorrhage. On September 13 she was admitted into hospital, having been confined to her bed for several days with recurrent abdominal pain and sickness. On admission she is seen to be decidedly anæmic, her abdomen is generally distended and very tender, she lies in bed with her legs drawn up, her countenance denotes anxiety and suffering, and on examination, instead of the definite tubal tumour originally felt, the whole of the pouch of Douglas is recognised as filled by a mass, the upper limit of which it is impossible to define on account of the abdominal distension and tenderness. To the diagnosis of tubal pregnancy the further diagnosis is added of "intra-peritoneal hæmorrhage." On September 15 I operated, removing the specimen which has already been briefly described. There was some dark fluid blood free in the pelvis, the result of a recent rupture of the hæmatocele. The main tumour filling the pouch of Douglas consisted of this hæmatocele which had formed around the fimbriated end of the right Fallopian tube. Within the tube a mole of pregnancy was found. The patient made a good recovery and was discharged on October 8.

Sometimes the whole of the pouch of Douglas is occupied by the hæmatocele. When this is the case there is as a rule no prominent tumour in the abdomen, but an irregular thickening stretching across the lower part of the belly above the pubes which marks the upper limit of the blood effusion. The prominence and distension of the hæmatocele caused either directly by the hæmorrhage or secondarily by inflammatory effusion below its upper limit is entirely expended on the pouch of Douglas. This

enlarges in every direction and encroaches on the vagina and rectum until the typical tumour is formed which is characteristic of full distension of the pouch when its upper connection with the general peritoneal cavity is temporarily occluded. Some writers describe this as the common or usual result of intra-peritoneal bleeding. In my own experience it is quite exceptional. Whenever it does occur the difference of tension between the distended pouch of Douglas and the upper abdomen proclaims the fact that the lowest part of the peritoneum is entirely shut off by adhesions from the rest of the cavity, and because of this (as we shall see) the condition can be treated as a purely local affection.

(3) *Later Rupture of the Pregnant Tube.*—This may take place at any time from the first month onward, but is most common from the second to the fourth month. If the pregnancy is situated in the middle or outer portion of the tube, and especially if in its growth it opens up to some extent the two layers of the meso-salpinx, the pregnancy may continue to develop for some weeks before rupture or extrusion occurs. When rupture does take place, although the accident may be fatal (and usually is so without operation) the hæmorrhage is probably never so directly and immediately fatal ("fatal without warning") as in the cases of very early rupture when the pregnancy is situated at the uterine end of the tube. It is even possible for hæmorrhage to be altogether absent.

The reason for this variable amount of hæmorrhage is to be mainly sought for in the involvement or escape of the placental attachment. The tube, subject to slowly increasing pressure from within becomes stretched and thin. As it enlarges and opens up the layers of the meso-salpinx, space is gained in which a pregnancy may develop for some weeks without material difficulty. This space is further protected by the bony pelvis on the side where the pregnancy is situated, and on the opposite side the displaced uterus forms a strong support or boundary. But the time comes, and



usually about the third month, when this space is altogether insufficient for the growing tumour. Then either the peritoneum must be still further displaced and the pregnancy must burrow downwards into the cellular tissue beneath it (this belongs to tubo-ligamentary pregnancy and will be considered later), or the covering of the pregnancy gets thinner and thinner, and the pregnancy moves upwards until in some places there is probably nothing but the one layer of peritoneum between it and the abdominal cavity. Then with further growth not only is rupture inevitable but some extrusion of the pregnancy into the abdomen—either partial or complete—is a necessary consequence also. For the present this alone will engage our attention. If the placenta be exposed, separated or torn the bleeding will be severe—if, on the contrary, the placenta is not involved by the rupture any hæmorrhage will come from the separated tube alone, and this may be moderate, infinitesimal or wanting.

Even if placental, the bleeding is only rarely directly and immediately fatal. "As the blood pressure falls the hæmorrhage ceases—at all events for a time—and a more or less well-marked attack of local peritonitis immediately follows. This peritonitis is neither so violent and dangerous, nor so protective (by the formation of firm adhesions) as is the peritonitis set up by suppurative inflammation, but it is sufficient to form a kind of roof or cap of adhering omentum and intestine which covers and confines the hæmorrhage and blood-clot. In this way a distinct but unstable intra-peritoneal hæmatocele is formed. I call it unstable because it is always subject to change. Fresh hæmorrhages occur, sooner or later, owing to the increasing detachment and protrusion of the placenta which so frequently follows the rupture, or the pregnancy may continue to grow.

"In either case the hæmatocele increases in size, its upper limit becomes convex and tense from the augmented contents, and every few days or every day some fresh strain is placed on the boundary of the hæmatocele. This, which was never marked by any solidity or strength, finally gives

way and a fresh invasion of the general peritoneal cavity takes place. Under these circumstances diffuse hæmorrhage into the peritoneum may occur and be as marked as in the case of acute bleeding from early rupture, but is more frequently followed by another arrest and further repair. Whether this happens or not, however, it is not now so much the rupture of the tube which is the seat of danger as the separation of the placenta and the rupture of the hæmatocele."

From this description which (in the main) I quote from an article on intra-peritoneal hæmatocele, written in 1895, it will be evident that the hæmatocele caused by later rupture of the tube—when fully formed—is essentially similar, save in extent and severity, to that I have already described as occasioned by tubal mole. There are, however, some points of difference which almost necessitate the separate consideration I have given to the hæmatocele of tubal mole and to that of later tubal pregnancy with rupture. The hæmorrhage in tubal mole is of quite a different character from that which occurs in later rupture of the tube. In tubal mole it is a more or less continuous blood-drip from the fimbriated end of the tube, varied perhaps by an occasional little gush of freer bleeding at irregular intervals. In later rupture of the tube the hæmorrhage is sudden and relatively copious, arising, as we have seen, either directly from the tear in the tube or from separation of the placenta—or from both combined. In tubal mole, owing to the slower formation of the blood tumour, the outer layer of blood has time to consolidate, and some measure of true encapsulation, however imperfect, is usually met with. In later rupture of the tube on the contrary, any encapsulation is quite exceptional, and the hæmatocele is limited only by the inflammatory adhesions, caused by the peritonitis which follows the hæmorrhage. Finally, the whole condition in later rupture of the tube is more "acute." The hæmatocele is larger at its onset, and rapidly increases in size. It may often be visibly watched enlarging and

During the removal of the pregnancy the amniotic sac was torn and only a portion of it can now be seen. Before operation it was in all probability intact and completely covered the foetus. If I restore this amniotic sac, replacing the outline of it around the foetus and cord, and if (for purposes of argument or explanation), it be conceded, that the bleeding might have ceased and the portion of placenta



FIG. 18.

separated from the tube, have recovered good attachment and blood supply, we shall reproduce the exact conditions under which a child may continue to grow within the abdomen of the mother, in other words, the tubal pregnancy may be recognised in this specimen as transitional, the tubal pregnancy is already becoming "abdominal" or ventral, and had the hæmorrhage at extrusion been less severe or wanting, it is quite possible that such a pregnancy might have gone to term, the child developing within the abdomen of its mother.

A RÉSUMÉ OF BIRMINGHAM AND WOLVERHAMPTON  
GYNÆCOLOGY DURING THE YEAR 1897.

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I HAVE, at the request of the Editor of the Journal, drawn up the following report on the gynæcological operations performed in the Birmingham hospitals in 1897.

I have also included a report of the work done at the Wolverhampton Hospital for Women.

Two of these hospitals are special hospitals, viz., the Birmingham Hospital for Women and the Wolverhampton Hospital for Women. The other two are general hospitals with special gynæcological departments, viz., the General Hospital, Birmingham, and the Queen's Hospital, Birmingham.

HOSPITAL FOR WOMEN, BIRMINGHAM.

This Institution was founded in 1871. It comprises an out-patient department and an in-patient department in separate buildings. The out-patient department is conveniently situated in the centre of the town, and well arranged for its special requirements. The in-patient department is inconveniently situated three miles away in the out-skirts of the town. It is an old-fashioned farm-house, which has been altered and enlarged by the addition of isolated cottage wards. It is ill adapted for the work it is called on to perform. There are, in all, nineteen beds exclusively devoted to surgical cases. In addition to the strictly gynæcological cases, it has for many years been the custom to admit a limited number of other cases of abdo-

minimal disease requiring surgical treatment, *e.g.*, cases requiring nephrectomy, colotomy, cholecystotomy, &c.

There are five special wards (with one bed only in each) set apart for cases of abdominal section. The patients are operated on in their wards, there being no operating theatre. In from five to seven days (when the patients are considered out of danger) they are moved into one of the convalescent wards. In these convalescent wards are also the beds reserved for the treatment of minor cases.

The following is the method now adopted of preparing patients for operation. The patient on admission is given a hot bath, special care being taken to thoroughly cleanse the field of operation. On the morning of the operation, or in some cases the evening before, the pubes is shaved, the skin is well scrubbed with soap, hot water and lysol, followed by methylated spirit and finally perchloride solution. Then a carbolic compress is applied to the field of operation and not removed until the patient is under the anæsthetic. On removal of the compress the scrubbing with lysol, spirit and perchloride is repeated. In vaginal cases, the vagina is well irrigated with lysol solution, followed by methylated spirit and finally perchloride. In most cases, however, this toilet of the vagina is performed after the patient is under the anæsthetic. For cleansing the hands of the surgeon and nurses, prolonged scrubbing with soap, lysol, and hot water is the method usually employed. In many cases, however, the permanganate and oxalic acid method or the spirit and perchloride method is also employed. The instruments, glass or rubber drainage tubes, the silk ligatures, and the silkworm guts sutures are all sterilised by boiling. The gauze pads (used exclusively in place of sponges), are sterilised by steam. The water used in the operation is also sterilised. The dressings used for the wounds are of the simplest character, being pads of unmedicated absorbent wool enclosed in gauze, or squares of Gamgee tissue. In some cases a dressing of iodoform gauze is placed next the wound. The whole dressing is kept in position by

two or three bands of strapping, and over all an ordinary obstetric binder is firmly pinned. After vaginal operations, the vagina is packed with iodoform gauze.

During the year 1897 297 operations were performed of which 137 were abdominal sections. The term abdominal section is strictly limited to operations which involve opening the peritoneal cavity, either through the abdominal wall or through the vaginal roof. It will be seen that this definition excludes such major operations as lumbar nephrectomy, nephrotomy, and colotomy from the category of abdominal sections. The anæsthetic used in the vast majority of cases is a mixture of two parts of ether and one part of chloroform given with a Clover's inhaler. In special cases (*e.g.*, where there are renal, or pulmonary complications), chloroform alone is given on a Skinner's mask. A detailed statement of the operations performed is here appended.

OPERATIONS INVOLVING ABDOMINAL SECTION.

		Cases	Recovered	Died
Exploratory incision	...	3	3	...
Removal of one	Myoma	11	11	...
or both ap-	Salpingo-oöphoritis	13	11	2
pendages for	Pyosalpinx	6	4	2
	Abscess of ovary	1	1	...
Removal of both ovaries for cystoma	...	6	6	...
Removal of one ovary for cystoma	...	22	19	3
	Cyst of broad ligament	1	1	...
	Parovarian cyst	3	2	1
Removal of	Ectopic gestation	10	10	...
	Hydrocele of round ligament	1	1	...
	Vermiform appendix	1	1	...
Pan-hysterectomy for myoma	...	7	5	2
	Cancer	6	5	1
	Myoma	3	1	2
Vaginal hyste-	Prolapse	1	1	...
rectomy for	Chronic metritis	13	13	...
	Acute metritis	1	1	...
	Tubercular peritonitis	2	2	...
Vaginal fixation of uterus for retroversion or pro-	...	11	11	...
lapse	...	11	11	...
Radical cure of ventral hernia	...	4	3	1

				Cases	Recovered	Died
Incision and drainage for	{	Pelvic abscess ... ..	...	3	3	...
		Chronic peritonitis ... ..	...	1	1	...
		Tubercular peritonitis ... ..	...	1	1	...
		Suppurative peritonitis ... ..	...	1	1	...
		Cyst of broad ligament ... ..	...	1	1	...
		Malignant ascites... ..	...	1	...	1
Abdominal nephrectomy for pyonephrosis...		...	...	1	1	...
Total ... ..				137	122	15

OPERATIONS *not* INVOLVING ABDOMINAL SECTION.

						No.
Curetting for	{	Endometritis ... ..	...	...	...	25
		Incomplete abortion ... ..	...	...	...	16
		Cancer of uterus ... ..	...	...	...	1
Evacuation of uterus for placenta prævia		...	...	...	...	1
Enucleation of sub-mucous myoma		...	...	...	...	1
Removal of polypus uteri ... ..		...	...	...	...	10
Drainage of pelvic abscess ... ..		...	...	...	...	4
Trachelorrhaphy ... ..		...	...	...	...	1
Dilatation of cervix for stenosis ... ..		...	...	...	...	7
Amputation of cervix for hypertrophy ... ..		...	...	...	...	1
Amputation of cervix for cancer ... ..		...	...	...	...	1
Removal of vaginal cyst ... ..		...	...	...	...	3
Repair of vesico-vaginal fistula ... ..		...	...	...	...	2
Colporrhaphy ... ..		...	...	...	...	1
Removal of urethral caruncle ... ..		...	...	...	...	6
Dilatation of urethra for cystitis ... ..		...	...	...	...	1
Removal of epithelioma of vulva ... ..		...	...	...	...	2
Removal of papillomata of vulva ... ..		...	...	...	...	1
Removal of fibroma of vulva ... ..		...	...	...	...	2
Excision of suppurating cyst of labium ... ..		...	...	...	...	1
Perineorrhaphy ... ..		...	...	...	...	16
Repair of recto-vaginal fistula ... ..		...	...	...	...	1
Incision of perineum for vaginismus ... ..		...	...	...	...	1
Incision of perineal abscess ... ..		...	...	...	...	1
Incision of fissure of anus ... ..		...	...	...	...	1
Division of fistula in ano ... ..		...	...	...	...	6
Removal of hæmorrhoids ... ..		...	...	...	...	11
Removal of tumour (myoma, lipoma, &c.) of abdominal wall...		...	...	...	...	8
Removal of buried sutures from abdominal wall ... ..		...	...	...	...	1
Incision of abscess of groin or abdominal wall ... ..		...	...	...	...	3
Amputation of breast for cancer ... ..		...	...	...	...	14
Removal of recurrent cancer from cicatrix or axilla ... ..		...	...	...	...	3
Removal of adenoma of breast ... ..		...	...	...	...	3

Incision of abscess of breast	...	...	...	...	...	...	2
Lumbar nephro-lithotomy	...	...	...	...	...	...	3
Lumbar nephrectomy	...	...	...	...	...	...	1
Total							160

(There was no mortality amongst these cases.)

#### *Fatal Cases (15).*

*A. Removal of Appendages for Salpingo-oöphoritis.*—There were two deaths after this operation. (1) A patient, aged 34, married, had her appendages removed for chronic inflammatory disease on January 25. At the same time a suppurating vulvo-vaginal cyst was excised. A large hæmatocele formed in the right broad ligament. It suppurated and became adherent to numerous coils of intestine. It was opened and drained by an incision just above the groin. On collapse of the sac the adherent coils of intestine became acutely kinked, and the patient died on February 9, from acute intestinal obstruction. (2) The appendages were removed for chronic salpingo-oöphoritis from a married woman, aged 24, on April 23. The patient died on May 2, from septic peritonitis.

*B. Removal of Appendages for Pyosalpinx.*—There were two deaths after this operation. (1) A patient, aged 25, and single. She had double tubercular pyosalpinx with a large fæcal tubo-ovarian abscess. The appendages were removed on May 7, and the patient lingered until June 3, when she died of chronic suppurative peritonitis. (2) The second case occurred in a married woman, aged 22. There was a large tubo-ovarian abscess on the right side, very adherent to coils of small intestine. The right appendages were removed on September 10. Perforation of one of the adherent coils of intestine took place, and she died on September 16, from the resulting peritonitis.

*C. Ovariectomy.*—There were three deaths after this operation. (1) The patient was aged 31, and single, had a cystoma of the right ovary removed on May 13. She did well until the third day, when acute intestinal obstruction



developed. The wound was re-opened and a coil of small intestines was found adherent to the pedicle and imprisoned beneath the acutely retro-flexed uterus. The obstruction was easily relieved. There were no signs of general peritonitis. The patient, however, never rallied from the second operation and died, apparently of exhaustion, on May 22. (2) This patient was aged 37, and married. She had a small ovarian cystoma and a doubtful tubal pregnancy. The operation was performed on September 22. The patient died on September 25, of septic peritonitis. (3) This patient was married, and aged 52. On December 9, a strangulated ovarian tumour (with twisted pedicle) was removed. She died on January 14, of tubercular disease of the lungs and recurrent mania.

*D. Removal of Parovarian Cyst.*—There was one death after this operation. The patient was aged 30, and married. The operation was performed on September 29. The tumour was very large and adherent, and firmly imbedded in the broad ligament. The patient was a chronic drunkard. She died October 1, of shock.

*E. Pan-hysterectomy for Myoma.*—There were two deaths from this operation. (1) The patient was aged 61, and married. On March 24 pan-hysterectomy was performed for a large myo-sarcoma of the uterus. The patient died on April 3 of exhaustion and some retro-peritoneal suppuration. (2) The patient was a widow, aged 44. She had a large multinodular myoma of the uterus and left hydrosalpinx. Pan-hysterectomy by Kelly's method was performed on April 26. The abdominal wound became infected. Portions of the rectus muscle on both sides sloughed and the patient died on May 5 of septicæmia. She was a chronic drunkard.

*F. Vaginal Hysterectomy for Myoma.*—There were two deaths after this operation. (1) The patient was a widow, aged 43. The operation was performed on February 25. She died the next day of acute septic peritonitis. (2) This patient was aged 43 and married. She was operated on, on

August 31. She was much exhausted by prolonged hæmorrhages from a large sub-mucous myoma. This was treated by *morcellement* and the uterus then removed by vaginal hysterectomy. The patient never rallied from the prolonged operation and died of shock, September 1.

*G. Vaginal Hysterectomy for Cancer.*—There was one death after this operation. The patient was a widow, aged 33. On March 30, an incomplete vaginal hysterectomy was performed—it was found impossible to remove the whole of the disease. On April 11 intestinal obstruction supervened and she died on April 16.

*H. Radical Cure of Ventral Hernia.*—There was one death after this operation. The patient was aged 34, and married. During the operation the bladder was accidentally opened and at once sutured with fine silk. Some hours after the operation one of the deep sutures gave way during an attack of vomiting. Acute peritonitis supervened and she died the following day.

*L. Incision and Drainage for Malignant Ascitis.*—There was one death after this operation. The patient was aged 61, and married. There was a large collection of ascitic fluid due to sarcoma of the peritoneum. The operation was performed on April 29 and she died on May 15 of exhaustion.

The death rate after abdominal sections was 10·9 per cent., the highest the hospital has recorded for many years. Of the fifteen deaths, one was due to tubercular disease of the lungs and mania, two to shock, two to exhaustion, three to intestinal obstruction, one to chronic suppurative peritonitis, one to perforative peritonitis, four to septic peritonitis, and one to infection of the wound and septicæmia. There were thus eight deaths due to non septic causes and seven deaths due to septic causes.

#### HOSPITAL FOR WOMEN, WOLVERHAMPTON.

This Institution, founded in 1890, is conveniently situated in the centre of the town. The building (formerly a private residence) is, however, old and ill-adapted for the

purposes of a hospital. There are eleven beds, two of which, in separate wards, are set apart for cases of abdominal section. In spite of the antiquated building and the unsatisfactory general surroundings, excellent results have been obtained, as may be seen from the annual reports—that for the last year being here appended. These results tend to prove the truth of the dictum of a great abdominal surgeon, “that the patient’s fate is sealed when the last suture is tied.” This, however, must not be used as an argument against the necessity for a new building, since it is obvious that a more suitable institution would enable as good or even better results to be attained, without the present great strain on the resident staff of the Hospital.

Every possible precaution is taken to ensure perfect asepsis, it being considered that an extra half hour’s work before the operation is better than a week of anxious after-treatment.

#### I.—OPERATIONS INVOLVING ABDOMINAL SECTION.

		Cases	Recovered	Died
Exploratory incisions ...	...	2	2	0
Removal of	Both ovaries for cystoma ...	2	2	0
	“ “ sarcoma ...	1	1	0
	One ovary for cystoma ...	4	4	0
	“ “ abscess ...	2	2	0
	Tubal pregnancy ...	1	1	0
Removal of appendages for	Myoma ...	1	0	1
	Salpingo-oöphoritis ...	2	2	0
	Pyo-salpinx ...	4	4	0
Incision and drainage for	Ascites ...	1	1	0
	Chronic peritonitis ...	1	1	0
	Tubercular peritonitis ...	1	1	0
	Pelvic abscess ...	4	4	0
	Peritoneal cyst ...	1	1	0
	Cancer ...	1	1	0
Vaginal hysterectomy	...	3	3	0
Pan-hysterectomy	...	2	2	0
Radical cure of hernia	...	4	4	0
Conservative operations on uterus and appendages :—				
Hysteropexy	...	9	9	0
Ignipuncture	...			
Resection of ovary	...			
Totals	...	46	45	1

II.—OPERATIONS *not* INVOLVING ABDOMINAL SECTION.

	Cases
Curetting ... ..	39
Perineorrhaphy ... ..	11
Removal of caruncle and labial cysts ... ..	5
Amputation of breast ... ..	4
Removal of hæmorrhoids ... ..	8
Division of cervix ... ..	6
Colporrhaphy ... ..	11
Dilatation of cervix... ..	4
Dilatation of rectal stricture ... ..	3
Amputation of cervix ... ..	5
Removal of coccyx ... ..	2
Removal of vesical growth ... ..	1
Removal of pessary ... ..	1
Removal of polypus ... ..	2
Drainage of vaginal cyst ... ..	1
Various minor operations ... ..	7

110

(There was no mortality amongst these cases.)

GENERAL HOSPITAL, BIRMINGHAM.

At the new General Hospital there are ten beds allotted for the special diseases of women. At the beginning of the year 1897 there were in the old hospital only six beds set apart, and for four or five months during the year the number was reduced still further; the full number of ten beds in the new hospital was not available until the end of October. The work for the year 1897 was, for these reasons, somewhat below the average amount of the previous two or three years.

In all ninety-eight patients were admitted to the gynæcological beds in 1897, and in seventy-six of these cases operations were performed.

	Cases	Died
Abdominal cœliotomy ... ..	38	5
Vaginal cœliotomy ... ..	6	0
Minor operations ... ..	32	1
	<hr/> 76	<hr/> 6

The total mortality of the abdominal sections, estimated in the usual way, was thus 5 in 44 = 11·3 per cent.

The abdominal coeliotomies were made up as follows :—

	Cases	Died
Glandular ovarian cyst... ..	8	0
Unilocular parovarian cyst ... ..	1	0
Graafian cyst ... ..	1	0
Cystic carcinoma of both ovaries ... ..	1	0
Cystic sarcoma of ovaries ... ..	2	1 (a)
Malignant ovarian tumour, exploratory incision ... ..	1	1 (b)
Chronic salpingo oöphoritis ... ..	4	1 (c)
Pelvic neuralgia, exploratory incision... ..	1	0
Pyosalpinx ... ..	5	0
Tubal pregnancy ... ..	6	0
Removal of appendages for myoma ... ..	1	0
Pan-hysterectomy for myoma .. ..	3	1 (d)
Mesenteric cyst ... ..	2	1 (e)
Ventral hernia ... ..	1	0
Hydronephrosis ... ..	1	0
	<hr/> 38	<hr/> 5

#### Fatal Cases (5).

(a) The fatal case of sarcoma of the ovaries occurred in a woman aged 52. At the operation about two pints of free peritoneal fluid were found ; there was a large tumour of the right ovary, and one the size of a cocoa-nut of the left ovary ; numerous adhesions to the small intestine and mesentery required to be dealt with. The patient appeared to be making satisfactory progress at first, but died on the sixth day from rupture of the jejunum at the site of a secondary growth. At the *post mortem* other deposits were found in the liver, behind the peritoneum, and in the small intestine.

(b) The patient, aged 50, was admitted in a state of great exhaustion and with a moderate degree of fever. Eighteen days later, when the patient seemed to have improved to a certain extent, an exploratory incision was made, and a very vascular tumour with many adhesions was observed. The patient was too ill to admit of an attempt at the removal of such a tumour, and she afterwards gradually sank and died of exhaustion on the eighth day.

(c) A small, thin woman who had been a chronic sufferer for years with repeated attacks of pelvic peritonitis, had both sets of appendages removed; there was nothing unusual about the operation, and no pus was found. Within twenty-four hours pneumonia began at the left base; this began to clear up about the ninth day, when pneumonia set in at the right base, and becoming gangrenous led to the patient's death on the twenty-ninth day after operation. A culture of the foetid sputum showed the presence of the pneumococcus, and of a bacillus which was not identified. At the autopsy there were found fine membranous adhesions in the pelvis; no thickening about the ligatures; and no free fluid.

(d) A telangiectatic myoma weighing  $7\frac{1}{2}$  lbs. was dealt with by total abdominal hysterectomy, both ovaries and tubes being removed along with the uterus. A gauze drain was passed from the peritoneal cavity to the vagina. The patient, who was a large fat woman, aged 47, did well for a week; then she began to vomit and bronchitis set in. The wound burst open during a fit of coughing on the ninth day; it was sutured again. Distension came on, and death ensued on the eleventh day. There was no *post-mortem* examination.

(e) A very large tense cyst, which apparently sprang from the mesentery, and which contained blood and fibrin, could not be removed because of its dense adhesions and deep connections. While gently exploring the cavity, bleeding began and went on profusely from the depth of the cyst. The cavity was stuffed with iodoform gauze, and the edges of the cyst sutured to the abdominal wound. The transfusion of saline solution was made into a vein, but the patient died from the profuse and continued hæmorrhage two hours after being returned to bed.

It will be observed that of these five deaths one only, that after hysterectomy, was due to wound infection. At the old hospital the gynæcological operations were done in the general theatre, and the cases were nursed in the

general medical wards, two beds being allotted in one of the large medical wards, and the other four beds being contained in a smaller ward. In the New General Hospital there is one ward containing eight beds, and two private wards with one bed each.

A combination of the aseptic and antiseptic methods is used in the treatment of the cases. In every abdominal section special care is given to the preparation of the vulva and vagina, both by the nurse and immediately before commencing the operation by the assistant. The skin of the abdomen, the vulva, and the hands of those concerned in the operation is prepared by careful scrubbing with hot water and soap for three minutes, followed by rubbing with spirit, and then with 1 in 20 carbolic or 1 in 2,000 corrosive sublimate solution for two minutes. Instruments, silk, and silkworm gut are boiled. Sponges are generally used in abdominal sections, but where pus is diagnosed to be present sterilised pads and squares of gauze are employed. Flushing of the peritoneum is seldom carried out; drainage, when required, is usually provided for by a glass tube, occasionally by gauze packing. The abdominal incision is closed as a rule by a single series of deep silk or silkworm gut sutures.

#### VAGINAL CÆLIOTOMY.

	Cases	Died
Vaginal hysterectomy for epithelioma of the cervix ...	1	0
Vaginal vesico-fixation for retroversion of the uterus ...	3	0
Vaginal fixation for prolapse ...	2	0
	<hr/> 6	<hr/> 0

In women of child-bearing age points high on the anterior wall of the uterus are sutured to the peritoneum covering the bladder. In patients at or after the menopause the fundus is sutured to the vaginal wall. The operations for prolapse were combined in each case with amputation of the cervix and perineorrhaphy.

MINOR OPERATIONS.

	Cases	Died
Partial excision of cervix for diagnosis ... ..	1	0
Removal of fibroid polypus of cervix ... ..	5	0
Curetting for { Corporeal endometritis ... ..	6	0
{ Carcinoma cervicis ... ..	2	0
Vaginal cyst, excision ... ..	1	0
Trachelorrhaphy ... ..	1	0
Vesico-vaginal fistula ... ..	2	1
Perineorrhaphy ... ..	3	0
Extension of perineum for prolapse ... ..	4	0
Dilatation of vulva... ..	1	0
Vulvar abscess, incision ... ..	1	0
Chronic Bartholinitis, excision ... ..	1	0
Incomplete abortion, evacuation of uterine contents ... ..	2	0
Induction of abortion for hæmorrhage ... ..	1	0
Induction of premature labour for hydramnion in twin pregnancy ... ..	1	0
	<hr/> 32	<hr/> 1

The fatal case after operation for the cure of vesico-vaginal fistula occurred in a woman aged 53, whose uterus had been removed for malignant disease twenty months previously. The fistula was high up at the apex of the vagina, and thus rendered the operation one of extreme difficulty. The woman died of septic peritonitis two days later, and the cause of this, as disclosed by the autopsy, lay in the close union of the peritoneum to the edge of the fistula. This relation had led to wound of the peritoneum, and to leakage of urine into Douglas' pouch and along the hollow of the sacrum.

QUEEN'S HOSPITAL, BIRMINGHAM.

At the Queen's Hospital a special ward, containing three or sometimes four beds, is devoted to gynæcological cases.

During the year 1897 fifty-seven cases were admitted and forty-seven operations were performed ; of these, eleven involved the opening of the peritoneal cavity.

All the cases operated on recovered, and there was no death in the department throughout the year.



The following are the particulars of the operations in which the peritoneal cavity was opened :—

*Cases.*—In four cases ovariectomy was performed ; in two of these multilocular cysts were found, in one a suppurating and in the fourth a dermoid cyst.

In one case the left ovary, containing an abscess which held about one ounce of pus, was removed.

There was one case of ruptured extra-uterine gestation, in which a foetus of about three months' development was found in the peritoneal cavity.

There was one operation for the removal of a pyosalpinx, the tube in this case being much distended and containing about three-quarters of a pint of pus.

In one case pan-hysterectomy was performed for the removal of a large myoma which reached above the umbilicus.

One case of adherent retroflexion with hydrosalpinx was treated by ventro-fixation of the uterus.

In two cases vaginal-hysterectomy was performed, in one on account of intractable hæmorrhage from the uterus, and in the other for epithelioma of the cervix.

Among the operations which did not involve the opening of the peritoneal cavity, the following were interesting and are worthy of remark :—

In one case a uterine fibroid, weighing  $2\frac{1}{4}$  lbs., was removed *per vaginam* by enucleation and *morcellement* ; during the operation the uterus was completely inverted, and the tumour peeled off the fundus to which it was attached. The inverted fundus was replaced, the uterine cavity packed with iodoform gauze, and the patient made a rapid and uneventful recovery.

In one curious case a bone crotchet hook, seven inches in length, was removed from the broad ligament, where it had been for six months ; it had been introduced by the patient herself under the mistaken impression that she was pregnant, and had produced no symptoms except some pain on movement.

Six cases of complete rupture of the perineum were operated on, in all by the flap-splitting (Lawson Tait) method, and in every case the patient regained complete control of her sphincter.

A complete list of the work of the department, taken from the Annual Report of the Hospital, is appended.

#### OPERATIONS.

##### *I.—Abdominal Sections.*

Removal of ovarian cysts	...	...	...	...	...	4
" ovarian abscess	...	...	...	...	...	1
" ruptured extra-uterine gestation	...	...	...	...	...	1
" pyosalpinx	...	...	...	...	...	1
Pan-hysterectomy for myoma	...	...	...	...	...	1
Ventral fixation of uterus	...	...	...	...	...	1
Vaginal hysterectomy	...	...	...	...	...	2
Total	...	...	...	...	...	11

##### *II.—Minor Operations.*

Enucleation of uterine fibroid	...	...	...	...	...	1
For fibroid polypus	...	...	...	...	...	2
For mucous polypus	...	...	...	...	...	1
For curetting uterus	...	...	...	...	...	7
For foreign body in broad ligament	...	...	...	...	...	2
Amputation of cervix	...	...	...	...	...	1
Dilating cervix	...	...	...	...	...	2
Induction of premature labour	...	...	...	...	...	1
Induction of abortion	...	...	...	...	...	1
For retroflexion	...	...	...	...	...	4
For retroversion of gravid uterus	...	...	...	...	...	2
For vesico-vaginal fistula	...	...	...	...	...	1
For removal of retained pessary	...	...	...	...	...	1
For complete rupture of perinæum	...	...	...	...	...	6
Posterior colporrhaphy	...	...	...	...	...	1
For epithelioma of vulva	...	...	...	...	...	1
For mammary abscess	...	...	...	...	...	2
Total	...	...	...	...	...	36

(There was no mortality.)

#### GENERAL SUMMARY.

We may now by adding together the figures obtained from the four hospitals, briefly summarise the results. In

all 576 operations were performed in the year 1897. Of these 238 were abdominal sections, of which 21 died, giving an average mortality of 8·8 per cent. There were 338 minor cases with 1 death (a mortality of 0·29 per cent.). There were 52 ovariectomies with 4 deaths (a mortality of 7·7 per cent.), 13 cases of removal of the appendages for myoma with 1 death (a mortality of 7·7 per cent.). There were 13 pan-hysterectomies for myoma with 3 deaths (a mortality of 23 per cent.). There were 19 cases of removal of appendages for salpingo-oöphoritis with 3 deaths (a mortality of 15·7 per cent.). There were 20 cases of removal of appendages for pyo-salpinx or ovarian abscess with 2 deaths (a mortality of 10 per cent.). There were 32 cases of vaginal hysterectomy with 3 deaths (a mortality of 9·7 per cent.). There were 18 cases of ectopic pregnancy and no death. There were 26 cases of vaginal or ventral fixation of the uterus with no death.

In conclusion, I acknowledge with many thanks the courteous manner in which the operating surgeons on the staffs of the four hospitals have placed their figures and reports at my disposal : I refer to Dr. Malins and Dr. Thomas Wilson of the General Hospital, Dr. Purslow of the Queen's Hospital, Dr. Lycett and Dr. Edge of the Wolverhampton Hospital, and my own colleagues, Dr. Savage, Mr. Taylor and Mr. Jordan.

*REVIEWS.*

TECHNIQUE CHIRURGICALE, PARIS. Par DOYEN, avec la collaboration du Docteur G. ROUSSEL, et de M. A. MILLOT. 36 plates, 422 engravings. Masson et Cie., Editeurs, Libraires de l'Academie de Medecine, 120, Boulevard Saint Germain (pp. 600). London, Messrs. Baillière, Tindall & Cox.

Though this work is written as much for the general surgeon as the gynæcologist, it has a special interest for the latter, inasmuch as nearly two-thirds of it is absorbed by operative gynæcology, and it is to this portion of the work that attention is specially directed. In his introduction, Dr. Doyen discusses the revolution of modern surgery due to the discovery of antiseptics, coupling together the names Pasteur and Lister as the immortal pioneers who led the way to the modern methods of operating precisely and safely, the need for operating quickly and well being met by the practice of anæsthesia. The author is uncompromising in his advocacy and belief in antiseptics and asepsis, for during many years in various hospital services, with the strictest bacteriological investigations, he found that the cause of death after operations might be traced to two sources,—either to an interference and procedure too grave for the vital powers of the patient to support, or to infection alone. To all those interested in the construction of modern aseptic and antiseptic Installations, as well as the various appliances needful for a perfect operative technique, the best positions for placing the patient for operations on the liver, kidney, and pelvic organs, the part of the work devoted to these subjects will be found specially interesting. The Installations

of the author, both at Rheims and Paris, are fully shown by numerous and admirable illustrations.

Everything that Dr. Doyen has to say on operative gynæcology will be of interest, not only to the narrower specialist, but to the general surgeon who does not shirk his duty by refraining from taking his part in the operative surgery of the pelvic organs of women. Some 350 pages of the work are devoted to this department of surgery, and it is worthy here of notice that a name which has become so familiar to all those who practise as specialists in gynæcology should be, at the same time, that of one who is as much a master in other branches of surgery as he is in this. Certainly gynæcologists have not been slow to follow the lead of this "general" surgeon, and to adopt his methods. We only purpose to touch on a few particular points of the work, which have a special interest, being of comparatively recent suggestion. With regard to posterior colpotomy, or vaginal laparotomy, he says it is the exploratory operation *par excellence* of the pelvic cavity. It enables us to know in a few moments by aid of the index and middle finger, the position of the posterior aspect of the uterus and adnexa, assistance being rendered in bringing them within reach by abdominal palpation with the other hand. Dr. Doyen advocates colpotomy instead of laparotomy (abdominal) in a number of cases in which the latter is now performed. In the exploration of the *cul de sac* of Douglas, the diagnosis of pelvic lesions, and the determination of unilateral ablation of the adnexa, as also many cases of bi-lateral, the advantage rests, he says, wherever it is practicable, with colpotomy. Enuclation he reserves for sub-mucous polypi, which are completely enclosed in the uterine cavity, and such hysterectomy he performs almost exclusively on single sub-mucous fibromas. The sub-mucous sessile polypus is exposed, either by a longitudinal incision, or by the raising of a triangular flap of the anterior uterine wall, or by a Y-shaped incision, the stem of the Y dividing the neck, while its branches include the triangular flap which exposes the tumour and

facilitates its removal, by *morcellement*, or otherwise. For reducing the size of such fibromata, and for more friable tumours, myxomatous or areolar, Doyen has devised sharp drilled tubes, of diameters varying from twenty-seven to thirteen millimetres, with which circular portions of the tumour are ablated. The steps of his vaginal hysterectomy are sufficiently well known not to necessitate recapitulation here. They are represented in the work by numerous illustrations showing the stages of the operation, viz., the opening of the pouch of Douglas, and examination of the pelvic cavity through it; incision of the anterior vaginal *cul de sac*, and freeing of the bladder; median anterior section of the neck; opening of the anterior peritoneal *cul de sac*; section of the body, and extraction of the uterus; extraction of the adnexa, and hæmostasis of the broad ligaments. As is well known, the author is an advocate for forci-pressure, and he again affirms that in vaginal hysterectomy the clamp is, for the great majority of cases, preferable to the ligature. But he reserves the use of the ligature for certain cases in which it can be used *en masse*, as, for instance, in hysterectomy for prolapse, and when the broad ligaments are very lax, so that the adnexa can with ease be withdrawn, thus enabling us to secure a comparatively thin pedicle, and apply the ligature *en masse*.

There is a most interesting section on multiple fibromata, complicated with sub-peritoneal fibromata, pediculated or sessile, and which deals with all the difficulties met with in some of these exceptionally difficult cases.

Perhaps the most important part of the entire treatise is that describing Dr. Doyen's most recent modifications in his operation of *abdominal pan-hysterectomy*. The main feature of this operation consists in the abandonment of any attempt at hæmostasis with clamps or ligature in the great majority of cases until after the uterus has been completely severed from its connections.

The operation is divided into four stages. The abdominal incision, with delivery of the tumour over the pubis; this is

effected in the usual manner, and the intestines and peritoneum are protected with compresses. The second stage consists in the removal of the uterus and hæmostasis of its pelvic attachments. This part of the operation, the author says, should be conducted quickly and without preventive hæmostasis. By the aid of a long curved forceps introduced through the vagina, the posterior *cul de sac* is pushed as high as possible, and a strong thread of silk is immediately passed about a centimetre below the point where the vagina is opened. This thread is useful at the end of the operation for closing the posterior lips of the peritoneal wound and the vaginal opening. The *cul de sac* of Douglas is now incised longitudinally by bistoury or scissors, and the opening is enlarged as far as possible by the forceps. The right index finger is introduced, and on it the special *érigne*, or combination of gliding fork with hook (Collin, Paris). With it



the anterior lip of the wound is firmly seized, or if this is not feasible, the posterior, and drawn backwards through the vaginal opening. With the left forefinger the lateral attachments are now examined, and by a stroke of the scissors at each side, keeping the instrument in close contact with the uterine tissue, the neck of the womb is separated from its lateral attachments as far as the lower portion of the broad ligament at each side. The uterus is drawn well backwards and upwards, and the anterior *cul de sac* of the vagina is now cut with scissors *kept in close contact with the neck*, and with the right index finger it is detached from the neck of the bladder. The uterus is now attached only by its lateral vascular connections, and the left index finger carried above the right broad ligament perforates the vesico-uterine peritoneum, and completes, with the curved finger,

the isolation of the right broad ligament, which is seized by an assistant between the thumb and index finger, and severed between the adnexa and the uterus. The tumour is then rapidly turned towards the left side, and is bared of its anterior serous covering, which is cut if it offers any resistance. It is now held only by its connections with the left broad ligament, which is, in like manner as the right, cut by a stroke of the scissors, and the uterus is thus entirely detached, the surgeon himself seizing in his fingers the divided left broad ligament. But little blood is lost, and that only from the smaller accessory branches of the uterine and utero-ovarian arteries, *provided that the scissors are kept close, in fact, dividing the uterine tissue itself.* The right and left adnexa, the pedicles having been duly secured by ligature, are removed, the uterine arteries or their principal branches are tied separately. The pelvic cavity is now dealt with. The vagino-peritoneal edge, and the vaginal mucous membrane, are brought into apposition, and the principal ligatures which tie the tubo-ovarian pedicles are drawn into the vagina. The third stage consists of closure of the pelvic peritoneum, and the toilet of the pouch of Douglas. Lastly, the abdominal wound is closed.

In certain cases modifications of this operation have to be made, which are discussed by Dr. Doyen, as in the case of shortness of the broad ligaments, very large or multiple uterine fibromata, inflammatory adhesions in Douglas, with fixed fibromata.

We have thus sketched this last effort of the distinguished French surgeon to simplify and expedite the operation of abdominal hysterectomy. The perusal of his work will repay anyone interested in the subject, and the admirable illustrations it contains, with the explicit text, will enable anyone to carry out his technique.

H. M.-J.



**A SHORT PRACTICE OF MIDWIFERY.** By HENRY JELLETT, B.A., M.D., B.Ch., B.A.O. Dublin Univ., Assist. Master Rotunda Hospital ; pp. 323, 45 illustrations.

We took up this work with mingled feelings on account of a personal distrust of little books on important and comprehensive subjects, and a natural jealousy for the prestige and reputation of the Irish, and especially the Dublin School of Midwifery. If there is one department of his profession more than another that the former student of an Irish Medical School is proud of, it is that of obstetrics. It is no idle boast to say that from the time of Ould to the present day, Irish obstetricians have maintained that reputation, and that following in the wake of those two teachers of the eighteenth century, Fleury and Moss, there have been trained in the Dublin hospitals successive generations of obstetricians that have shed a unique lustre on the Dublin school. The Rotunda and the Coombe have been centres of teaching to which have resorted students from different parts of the world, and in these institutions such exponents of the obstetric art as Rigby, Burns, Maunsell, Churchill, Murphy, Collins, McClintock, Beatty, Kidd, and Atthill have, each in his turn, taken his share in assisting in the progressive development of that art, and of later years its twin sister, gynæcology. Therefore, when a practice of midwifery, which purports to embody the treatment adopted in the Rotunda Hospital of Dublin, appears, its author must expect that its pages will be perused with something more than ordinary interest by those who have been brought up in the teaching and precepts of the Dublin school. The talented ex-master of the Rotunda Hospital, Dr. Smyly, has written a short preface, and in it he points out that those methods are at variance with many of the ordinary rules laid down in text books. We will just mention a few of these. Dr. Jellett's chapter on Asepsis in Midwifery deals with the futility of *ante-partum* douching as a prophylactic measure. Indeed, further, he

absolutely condemns it. On the other hand, inasmuch as *post-partum* douching is frequently unavoidable, such douching should be conducted with the greatest care, and if possible by the medical attendant himself. He does not approve of mercuric perchloride, and suggests a mixture of creolin and water in preference. For the thorough cleansing of the hands, and the rendering of these and instruments aseptic, he advises all the same care and precautions as would be taken in any ordinary aseptic abdominal operation. We have ever acted on the principle that the avoidance of sepsis after labour, operative or otherwise, depends on the thorough cleanliness of the hands of the obstetrician and the external genitals of the woman, and not on douching with any antiseptic. Such precautions, with thorough sterilisation of instruments, afford her the greatest security. If an operation has to be done, then we should treat the vagina in precisely the same manner as we would if about to perform a vaginal hysterectomy.

Another matter worthy of note is the criticism on the use of the plug in abortion and placenta previa.

Dr. Jellett says that when the hæmorrhage requires active treatment there are two courses to be followed. Either removal of the ovum by finger or the curette, or the plugging of the vagina. If we cannot adopt the former, the second method must be used. "If this rule be followed, we shall plug the vagina in somewhat less than 1 per cent. of cases of abortion requiring active treatment," and further, he points out the dangers which may follow on plugging out the vagina, both primary or secondary. While there are many weighty reasons for following this advice, we cannot help thinking that Dr. Jellett rather over-estimates the danger of careful tamponnading of the vagina, and under-rates the dangers which may follow from too frequent use of the curette during abortion. Also, it is absolutely necessary and right in a certain proportion of cases to take proper steps for the due dilatation of the cervix before the use of either the finger or curette, and this should be done when

interference is indicated by the use of a proper aseptic tent, and with thorough antiseptic precautions. Such previous dilatation it would be well to enforce on practitioners the necessity of carrying out, as it may prevent the consequences of rough attempts to pass the finger into an undilated cervix, and must assist in the use of the curette, and the escape or removal of the uterine contents. The advice, to plug in external accidental hæmorrhage, is such as must be followed with reserve and caution by practitioners, as safety to the woman will depend upon the time the hæmorrhage occurs, and the method of plugging. Dr. Smyly says that in the first two years of his mastership he treated all serious cases by rupturing the membranes, and if that did not prove effectual, delivery was effected by version and extraction or perforation. The results were so bad that he resorted to plugging in all cases of external accidental hæmorrhage in which the membranes were intact, and labour pains absent or feeble—that is, in the great majority of cases, and with excellent results. “The fear that an external would be converted into an internal hæmorrhage proved groundless.”

It has always been our treatment in the early stages of accidental hæmorrhage, and before the os uteri was dilated, to efficiently plug the vagina and watch the case, and, if the hæmorrhage continued, at the earliest moment to rupture the membranes, always pursuing the latter plan if there were efficient labour pains. But we fear that in not too skilful or experienced hands, or in outside and private practice, where the course of the case may not be under adequate supervision, reliance on plugging alone as a remedial measure would occasionally be fraught with disastrous consequences. As to the use of the plug in placenta previa, we have always taught and understood the treatment as self-condemned, except in the rarest of cases, and this, as the author said, does not occur once in a hundred times. Whether we adopt version and rupturing of the membranes, with withdrawal of a foot, or rupture of the membranes alone, or delivery by podalic version or forceps, will depend upon

the stage at which the hæmorrhage occurs, the form of placental presentation, and the condition of the woman.

The other important deviation from a practice which may have received too routine a following, is the abandonment of chloral and chloroform in the treatment of puerperal eclampsia. Dr. Smyly has abandoned the use of chloroform in eclampsia with reluctance, and Dr. Jellett, following his treatment, prefers the Veit treatment of hypodermic injections of morphia (two grains in the twenty-four hours), arguing that chloroform and chloral both favour that most dreaded complication, heart failure.

This would be too large a subject to discuss here, but we consider that in certain cases of eclampsia the early administration of chloral hydrate and bromide of potassium by the rectum is a most valuable means of arresting the fits, and we have seen chloroform under varying circumstances and associated with other means of treatment, both enable us to gain time and to save life. Another valuable remedy for the reduction of high tension in the cerebral vessels, and which has certainly saved life in cases of eclampsia, preventing cerebral hæmorrhage, is pilocarpine. The fact is, that there can be no routine treatment for puerperal eclampsia—each case must be treated from its individual point of view, the period of pregnancy at which the convulsions occur, their type, and that of the patient and their relation to the labour.

We have carefully perused Dr. Jellett's work, and can truthfully say of it that it bears the stamp of having been written by a thoughtful and expert obstetrician, one who is no mere follower in beaten paths of practice, but is capable of much original thought and suggestive reasoning. The work shows the advance made in several points during the last decade, and will be an admirable short class book for the student. There are in it forty-five admirable illustrations, and an appendix containing the statistics of the Rotunda Hospital for the last seven years. The Rotunda Hospital has no cause to be ashamed of its Assistant

Master, who has been permitted by its present Master, Dr. Purefoy, to associate the book with its name. We lay it down with the hope that Dr. Jellett will in future editions enlarge its scope, and render it still more worthy of the renowned hospital it represents.

**OPERATIVE GYNÆCOLOGY.** Vol. i., pp. 561. With 24 plates and over 500 original illustrations. By HOWARD A. KELLY, A.B., M.D., Professor of Gynæcology and Obstetrics in the Johns Hopkins University, and Gynæcologist and Obstetrician to the Johns Hopkins Hospital, Baltimore.

We have not space in the present issue to do more than draw the attention of our Fellows to the appearance of this, by far the most important work of its kind that has appeared in the English language. No work, British or foreign, that we have ever seen in any degree approaches it in the beauty and artistic merits of its numerous original plates and illustrations. We are certain that this verdict will be endorsed by every one who takes the book in his hand and glances through its pages at the pictures, the great majority of which are taken from original sketches and photographs by Mr. A. S. Murray and the author himself. All the anatomical drawings, showing the topographical anatomy of the abdomen, the viscera, and the pelvic organs, are the finest that we have seen, and most of them are exquisitely coloured. We may divide the contents of the work under three headings. The first eight chapters deal with the questions of sepsis and antiseptics in hospital and private practice, bacteriology, topographical anatomy, gynæcological examination and instruments, anæsthesia, and plastic operations. The next three chapters deal with the external genitals, the recto-vaginal septum, and operations on the vagina. The two following treat of affections of the urethra, bladder and ureters, this portion of the work occupying over two hundred of its pages. This is followed by six chapters in which operative interference upon the cervix uteri, prolapse,

vaginal hysterectomy, inversion of the uterus, vaginal extirpation of submucous myomata and polypi, are discussed.

We propose in the next number of the *Journal* to discuss more intimately some of the more original and special features of this volume, which, if it be a forecast of that to come, will with its companion place in the hands of the profession the most complete treatise on this department of medical science that has hitherto appeared in any country.

**DISEASES OF WOMEN. A TEXT-BOOK FOR STUDENTS AND PRACTITIONERS.** By J. C. WEBSTER, B.A. Canada, M.D., F.R.C.S. Edin.; Demonstrator of Gynæcology, McGill University; Assistant Gynæcologist, Royal Victoria Hospital, Montreal; late Senior Assistant to the Professor of Midwifery and Diseases of Women, Edin., 1898. Young J. Pentland, Edinburgh and London.

We must own to some feeling of regret in taking up yet another gynæcological text-book; the opportunities for choice are even already somewhat embarrassing to the student. The name of the author, holding as he does a professorship in this branch of medicine in a Canadian University so well known to fame as the McGill, and who had so well filled a like post in the University of Edinburgh, is, however, a fair guarantee of a capability for such authorship, both from a class-room and bedside teaching point of view. As a writer, too, and from his own personal investigations on subjects both scientific and practical in gynæcology, Dr. Webster has made his mark, and has been for some time esteemed no mean authority. This work in no way depreciates its author's position, but on the contrary, enhances it all round. It seemed to us impossible for a text-book to be strikingly original; Dr. Webster has proved this not to be the case. The actual plan of all such works must necessarily, or should be, on like lines, but it is indeed somewhat of a treat to take up a book of this kind where even the anatomical chapters read so distinctly of the

dissecting-room and the anatomical museums, and are so free from the trite mannerisms of the desk. The sections on "The Connective Tissue of the Pelvis" and "The Pelvic Floor" are worthy of the most careful study ; whilst giving due recognition to previous enquiries on these subjects, the author points out in a manner that claims our attention, where he considers them in error and evidences his views from his own dissections of the parts. He has here copied with advantage some of Savage's excellent, and too little used, plates. The question of the interference of the nervous system in pelvic troubles necessarily, from the author's earlier writings on the subject, comes in for a fairly brief but very carefully worded notice ; the student is warned against the present day trend towards surgical treatment, and to the general forgetfulness that the pelvic organs must take their share in affections of the general economy, as indeed "but parts of one stupendous whole." Bacteriology, too, has not been overlooked. In a manual of the size of this one, and it is large enough, a great difficulty arises in the attempt to instruct the students in the variety of treatment now in vogue, for fibroids for instance ; and it is to us somewhat questionable whether or not some of these might with advantage be passed by, or named perhaps without any more definite description. We shudder to think of the result which might attend the beginner's attempt to treat a fibroid by intra-uterine galvano-puncture, even only to the extent "*of one or two inches*," on the strength of the brief account here given. This is no fault in the book, be it quite understood, but from the immense amount of detail that has to be thus "boiled down" into so small a space. The pages devoted to "operative measures in general" are full of valuable hints to the younger operator and without repetition leave out nothing that should be included either in the preparation for the operation or in the after-treatment ; noting most carefully and minutely the many dangers and difficulties that abound at such times ; peritonitis and cellulitis are here most ably discussed. The

engrossing subject of fibromyomata is fully treated of, both in its pathological and surgical aspect ; the latter is fully up-to-date, and the dangers that incessantly hang over the head of the possessor of "only a fibroid" (as some living authorities still seem to view them) are here carefully and yet none too vividly pointed out. He justly advises the student and practitioner to avoid the perhaps too surgical tendency of this very present day, whilst at the same time equally deprecating the rest-and-be-thankful view so strongly urged by many gynæcological physicians. The operative chapters are, like the whole book, good, and Dr. Webster has sunk the operating surgeon in the teacher, much to the advantage of his audience, who are as yet presumably not operating specialists. It is very much to his credit, although the work seems to lack its presence, that he has omitted any reference to tubal gestation, a subject, in the pathology of which at any rate, he may be considered an authority.

Dr. Webster has *written*, not merely compiled, an admirable text-book ; he would appear to be a capable and original teacher. We very heartily congratulate the McGill University on having so successfully wooed back again her earlier alumnus from his more recent Scottish Alma Mater.



EXPERIMENTS ON THE SENSORY CAPACITY OF THE FEMALE GENITALS FROM A FORENSIC POINT OF VIEW. By Dr. CALMANN. *Archiv. für Gynäkologie*, Band lv., Heft 2.

In October, 1896, there was a trial in Breslau, of a midwife for procuring abortion or premature labour. The midwife had been brought in under suspicious circumstances and had remarked "I can settle or hasten this matter." She had examined the patient and placed a dish between the patient's thighs, then she passed a metallic long thin instrument and the "waters" at once came away. This was April 6, and on the 8th the foetus was expelled; and as hæmorrhage and fever set in, the patient called in her family doctor whom she had consulted earlier in the pregnancy on account of hæmorrhages then.

The midwife declared that the abortion had nothing to do with her examination and instrument, since she merely passed a catheter and drew off the urine, afterwards putting a plug into the vagina.

The patient held that the instrument was passed into the vagina and uterus, in the same direction as the examining finger.

The medical man stated that he feared abortion at an earlier stage, especially since the patient was suffering from florid loss at the time of conception.

The experts, Professor Lesser and Dr. Asch, answered in the negative the question of the judge, whether the patient must have been sure if she were catheterised or not, *i.e.*, she need not have been sure of it.

They further held that it was highly doubtful that the patient, who had never been catheterised before, would be in a position to decide from the feeling alone whether the instrument had been introduced by the midwife into the vagina or the urethra.

Two main questions arise out of this contentious point:—

(1) Can a woman localise correctly a disturbance in the entrances of the urino-genital apparatus, or, stated fully, is the sense of localisation sufficiently developed for an exact differentiation between the vagina and the urethra?

(2) Is she in a position to judge of the form, size, and nature of any objects introduced into the urino-genital system?

Many authorities are quoted, including Lesser, Berger, Jardien, Vibert, who give various opinions, and the author has made investigations as to the sense of localisation and touch, and of pain of the urethra, the vagina and the uterus, and of the rectum adjacent to it.

The conclusions of the author from his investigations are as follows:—

(1) The sense of localisation is very defectively developed in

the female urino-genital system, the local differentiation between the urethra, bladder, and the vagina is quite uncertain, and a similar sense of locality between the vagina, portio, and uterine cavity does not exist at all.

(2) The sense of touch, especially of the portions of this region which lie above their respective entrances, is likewise defectively grown. All judgment is absent as to the length of an object introduced, the thickness is fairly well recognised, but no correct estimate of it is made with certainty. There is great obscurity as to the form and other characters of objects introduced. The number of objects introduced into the vagina is often falsely given.

There is no sense of touch in the portio vaginalis and the uterus.

(3) The sense of pressure is somewhat well developed in the urethra, in the vagina it is very feeble, and in the uterus and outer surface of the portio it cannot be demonstrated.

(4) The sense of temperature is also fairly good in the urethra. In the vagina it is feebly developed, specially towards the hotter degrees of temperature. It fails entirely in the uterus and portio.

(5) Sensation of pain is quick in the urethra, in the vagina, in the portio and in the cervical canal it is only moderate, in the uterine cavity it is often marked.

This forms the only subjective difference between the uterus and vagina.

(6) Vaginal douches and the customary disinfections diminish the sensibility of the vagina.

F. E.

VESICO-UTERINE FISTULA. By A. R. SAVOR. *Centr. f. Gyn.*, No. 49, *Bull. Med.*, January, 1898; No. 2, *Rev. Obst. Intern.*, January 11, 1898, p. 13.

A woman with a narrow rachitic pelvis had five years previously been operated on for Cæsarean section, the uterus being preserved. A silk ligature had worked its way from the uterine wall into the bladder, producing between those two organs a fistula which remained latent. The silk suture formed the starting point of a phosphatic calculus in the bladder which developed an ammoniacal cystitis. She became pregnant a second time and, on account of the pelvis being narrow, it was decided to induce artificial labour at the eighth month of pregnancy. Under this influence the fistula reopened, the urine passed into the uterus, which produced septic endometritis terminating in death.

P. Z. H.

**SOME REMARKS UPON CONSERVATIVE SURGERY OF THE UTERINE APPENDAGES.** By Dr. A. PALMER DUDLEY, Surgeon to Harlem Hospital, &c.

Dr. Dudley has records of eighty-eight cases where he has removed portions of tubes and ovaries and returned the remaining portion of the appendages to the pelvis; of these he knows that fourteen have since the operation become pregnant. In only one case, and that of gonorrhœal origin, did inflammation follow after operation. He has cut the ovary completely in two longitudinally, removed cysts from its centre and sewed it up again. He has never treated the ovary with a cautery as recommended by Pozzi, but has preferred puncturing the cysts with a needle. He has removed pus from the ovary and left the remaining apparently healthy portion. In the treatment of occluded tubes he has always treated them in the following manner: A phimosi operation is performed on the remaining healthy portion by slitting it up a half-inch or more on the upper surface, rolling out the cut surfaces, and then with fine silk and running suture stitching the mucous lining of the tube to its peritoneal covering. He has always fastened the remaining portion of the ovary to the tip of the remaining portion of the tube by fine silk suture.

Tubes distended with pus he has washed out with an aseptic solution, having reopened the tubo-uterine stricture by a fine probe. This paper as a whole shows an earnest desire to relieve inflammatory diseases of the appendages without having to resort to hysterectomy or removal of the appendages. The results certainly are excellent and encouraging.

J. F. J.

**THE SURGICAL TREATMENT OF FIBROID TUMOURS OF THE UTERUS.** By Dr. AUGUSTIN H. GOELET, Professor of Gynæcology in the New York School of Clinical Medicine, &c.

The surgical procedures discussed in this paper are curettage, division of the uterine arteries, myomectomy, both vaginal and abdominal, and hysterectomy.

Curettage is palliative only. In its performance the author advocates longer dilators, longer and more rigid curettes, longer irrigators, and with these great care in dilating not to cause laceration, and after the curetting thorough irrigation.

Advantages are claimed for the operation of division of the uterine arteries, but first the author insists on their division and not merely on their ligation. It is recommended for all myomata not rising high into the abdomen and not depending largely on the ovarian and round ligament arteries for their blood supply. Also the myomata treated by this method must not be pedunculated subperitoneal.

The author, however, lays greatest stress on the advantages of myomectomy. At the same time he recognises the dangers of hæmorrhage and sepsis, and therefore takes extra precautions to avoid them. In a multinodular condition each nodule is removed by a separate incision, and the cavities thus produced are closed by deep chromic catgut sutures so placed as to cause perfect coaptation of the walls. He would even adopt this procedure for a sessile submucous myoma—opening first, from the abdomen, the cavity of the uterus and then incising the mucous membrane covering the nodule so that it may be shelled out of its bed. He does not report any cases or statistics, and therefore the mortality due to sepsis and hæmorrhage cannot be compared with that following removal of the appendages or hysterectomy, vaginal or abdominal.

For myomata low down in the uterus he would either divide the uterine arteries or enucleate from the vagina. For vaginal hysterectomy for myoma he has not a good word to say. Abdominal hysterectomy he considers justifiable where neither division of the uterine arteries nor enucleation are feasible, and especially when the tumour is very large or has undergone degeneration, or when the appendages are hopelessly diseased.

J. F. J.

EXPERIENCE OF TWO HUNDRED AND FORTY-NINE ABDOMINAL SECTIONS. By Dr. A. LAPHORN SMITH. Read before the Medico-Chirurgical Society of Montreal, November 12, 1897.

This is a most interesting and instructing record of abdominal surgery extending over eight years, from 1890 to 1897 inclusive. His mortality has steadily declined till last year, when three specially grave cases sent it up somewhat.

In 1890 4 operations with mortality 0.

„ 1891	8	„	„	„	of 1, or 12	per cent.
„ 1892	12	„	„	„	2 or 17	„ „
„ 1893	23	„	„	„	3 or 13	„ „
„ 1894	39	„	„	„	3 or 8	„ „
„ 1895	57	„	„	„	2 or 3½	„ „
„ 1896	60	„	„	„	2 or 3½	„ „
„ 1897	46	„	„	„	4 or 9	„ „

Considering the large number of cases that come under the author's care, he cannot be charged with being a radical laparotomist but rather a conservative.

In all cases of chronic inflammatory disease of the ovaries he refuses to operate till all other measures for their relief have been tried for twelve months. The author's experience of the conservative surgery of the ovaries and tubes is most interesting. There must always be the conflict in one's mind as to how much

to take away and how much to leave, and whether a conservative operation will relieve the patient or leave her with just as much suffering as before. In young women especially the preservation of the ovaries or part of them is most important, though sometimes this very conservatism may be to the surgeon's cost since he has failed to cure.

Showing the advantages and the disadvantages will be best done by recording two or three of his cases.

Mrs. H., chronic invalid for years, constant pain. Retroversion with dense adhesions, ovaries and tubes cemented under uterus. Patient insisted upon the ovaries being left in. They were dug out of their bed and the freed uterus was fastened to the abdominal wall. Result, patient is in splendid health, menstruation regular and painless.

Mrs. D., hydrosalpinx and cystic ovaries. The hydrosalpinx was removed, the cysts in the ovaries were emptied, but as she was a young woman the latter were not removed. Good recovery from the operation, but ever since patient has complained bitterly of her suffering and has blamed the author for not having removed the ovaries.

The author believes that sclerotic ovaries, where they are small, hard and wrinkled, give rise often to a great deal of suffering which has been relieved by their removal, and one case, Mrs. M., was instructive. She was admitted to have ovaries removed and retroverted uterus fastened up. The ovaries were hard and so small that he was urged by a colleague to leave them. Result—patient suffering as much as ever, and very angry and disappointed. The author thinks that the pendulum has swung a little too far towards conservatism.

He reports seven cases of tubal pregnancy and points out the uniformity of the symptoms of enlarged breasts, irregular flow and rapidly enlarging mass on one side of the pelvis. In some of the cases he felt the mass getting larger from time to time and waited till rupture occurred. Why wait? With these symptoms, and the enlarging mass in the pelvis, why not operate at once and prevent the possible risk of death from hæmorrhage?

As regards drainage after removal of pus tubes, or other conditions leaving a large area of raw surface, the author has gradually abandoned it. By carefully preparing the patient's bowels beforehand, and by the use of the Trendelenburg posture, every bleeding and oozing point can be seen and stopped.

Several gallons of hot salt solution are used for washing out, and it is carried by a long smooth nozzle to every part of the peritoneal cavity. The author leaves from one to four quarts of salt solution in the abdomen to prevent adhesions, to fill up the empty arteries, and promote diuresis. He also urges patients to

drink water freely the day before the operation. By these methods the thirst which is often so distressing is avoided.

The author also records eight cases of appendicitis in ninety-nine pus tubes and seven tubal pregnancies, *i.e.*, in  $7\frac{1}{2}$  per cent., and gives his method of removing the appendix and closing the opening. After tying and cutting the meso-appendix, he snips the appendix off even with the cæcum. The hole in the intestine he sews up with fine silk only including the muscular coat. A director is then pressed upon the line of suture until it sinks below the surrounding surface, when another row of sutures brings the peritoneal surfaces together.

J. F. J.

**PELVIC ABSCESS.** By PAUL F. MUNDÉ, M.D., Professor of Gynæcology at the New York Polyclinic, &c., &c.

The first part of this paper is devoted to the anatomical consideration of the subject. The author points out how an intra-peritoneal abscess may be situated in the ovary, or the tube, or may be encapsulated in Douglas' pouch, or may be an appendical abscess which has burrowed into the pelvic cavity, and how an extra-peritoneal abscess may be:—

- (1) In the pelvic cellular tissue (between the broad ligaments, in the vesico-vaginal or recto-vaginal septum).
- (2) In the iliac fossa and subrenal regions.
- (3) Under the fascia of the abdominal muscles.
- (4) In the anterior and posterior crural regions.
- (5) Into rectum, vagina, bladder or uterus.

The inflammatory exudation may extend largely from between the layers of the broad ligament where it usually begins, along the loose sub-peritoneal tissue, and wherever the exudation goes there suppuration may follow.

The chief causes of intra-peritoneal pelvic abscess are septic puerperal infection, gonorrhœa, acute endometritis and salpingitis from other causes. A pyosalpinx is more readily produced by these agencies than an ovarian abscess, as infection is more directly transmitted to the tube. An ovarian abscess is more likely to be produced by acute septic infection through the intra-ligamentous lymphatics, especially if the attack is repeated and the ovary is enclosed in adhesions. An encapsulated abscess in Douglas' pouch usually follows transmission of infection from the tube. An intra-peritoneal hæmatocele may undergo suppuration.

Extra-peritoneal abscess is usually due to superficial and deep lesions of the pelvic cellular tissue at the time of parturition. Lacerations of the cervix and vagina, and operations on the cervix without strict asepsis, must also be regarded as causes.

An intra-peritoneal abscess may be lateral or posterior to the

uterus. If lateral it is more or less movable even though adherent in Douglas' pouch. The mobility is less marked if the abscess is bilateral. The uterus can also be moved slightly up and down, but not to either side.

"If the mass is solid it represents the hypertrophied tube and ovary bound together by adhesions, the tube curling round the ovary and neither containing an appreciable amount of fluid. The shape and size of the mass then resemble a mandarin orange, being flat and not spherical. But if there is fluid in either of the appendages the mass is more round, like an ordinary orange if the ovary contains the fluid; or oblong, sausage-shaped, if the tube is the distended organ." If the adhesions are very firm, or if there has been plastic exudation in Douglas' pouch, then there is absolute immobility.

An ovarian abscess is usually enclosed in adhesions. A pyosalpinx may be free in Douglas' pouch in its early stage, but soon becomes adherent, not, however, projecting much towards the vagina.

An encapsulated abscess in Douglas' pouch renders the whole vaginal vault rigid, except at a point directly behind the cervix, where a soft, boggy, bulging spot is felt. By an aspirator needle the diagnosis may be confirmed. The abscess is always in the centre behind the cervix. As the starting point of such an abscess is usually the tube it is imbedded in the exudation.

In extra-peritoneal abscesses the uterus is immovably fixed. The firm hard swelling that is to be felt at first varies in location according to the course taken by the exudation. In later stages the tense elastic or the boggy, doughy feel of the extra-peritoneal pelvic abscess, whether it points in the vagina or through the anterior abdominal wall, leads to a suspicion of pus. One or more chills followed by a rise of temperature, after the acute symptoms of a pelvic inflammation have subsided, will suggest the formation of pus.

If pus is diagnosed it should be evacuated for pus tubes, pus ovaries and encapsulated accumulations of pus in the pelvis may rupture into the peritoneal cavity causing general purulent peritonitis. The author records five such cases terminating fatally.

Spontaneous evacuation of the pus may occur into bladder, rectum, vagina, or through skin of abdomen, thigh or buttock. The rectum is the favourite point of rupture, the vagina next, the bladder third.

Of 103 cases of pelvic abscess recorded by the author 87 recovered, 6 were discharged improved, 1 not improved (refused treatment), and 9 died.

*Treatment.*—For all non-adherent pus sacs, for double pyosalpinx and double pus ovary, abdominal section and extirpation

of the pus sac is the proper remedy. If antisepsis has been thoroughly observed and the pelvic cavity sponged dry drainage is not necessary, either upward or downward. If an adherent ovarian or tubal abscess has penetrated the pelvic cellular tissue, or the peritoneum of Douglas' pouch is torn during the operation, gauze drainage into the vagina is advisable.

"For single pyosalpinx and pus ovary when firmly embedded in adhesions and pointing into the vagina, for encapsulated pus in Douglas' pouch, and for appendical abscess, both pointing into the vagina, a free transverse opening into the vaginal vault should be made."

After evacuating the pus the abscess cavity should be cleaned and irrigated and drained. The author does not approve of the routine removal of diseased appendages through the vagina, though he does not deny its feasibility or even facility at times. Pan-hysterectomy (removal of the uterus and the diseased appendages) *per vaginam* is justifiable only when the uterus also is hopelessly diseased, or when the thorough drainage necessary for the cure of a pelvic abscess can be secured only in this manner.

For extra-peritoneal pelvic abscess the treatment should be a free incision wherever the pus points and free drainage.

J. F. J.

#### OBSTETRICAL.

ANTE-PARTUM HÆMORRHAGE. By ROBERT JARDINE, M.D.  
*Glasgow Med. Journ.*, January, 1898.

Dr. Jardine records and analyses in this paper fifty-one cases of ante-partum hæmorrhage that have been treated by him and others in the Maternity Hospital, with five deaths (maternal). With regard to treatment he writes:—

In the "American Text-Book of Obstetrics" the following statement is made:—"There is no single method of treatment in placenta prævia applicable in all cases and at all times; therefore the obstetrician will act most wisely who chooses means corresponding with the special features of the case in hand and with the emergencies that arise." I entirely agree with that statement. In the cases just related various methods were employed.

Of late the vaginal tampon has been very highly spoken of, but to adopt it in every case would be a fatal mistake. If properly applied it will check the hæmorrhage and ensure dilatation, but if the vagina is not thoroughly plugged it is worse than useless. It is most useful before dilatation of the os, or in cases where removal of the patient is necessary. The strictest antiseptic precautions must be taken. It should not



be left in for many hours, and the patient should be carefully watched. On removing it the os will usually be sufficiently dilated to turn by the bipolar method and bring a foot down. The case can then be left to nature if the os is not dilated sufficiently to allow delivery without risk of laceration of the cervix.

Bipolar version is one of the best methods of treatment. It can be done when the os will admit two fingers, and is therefore applicable to many cases. When the thigh is drawn down into the cervix, the very best plug and dilator is secured. Bleeding will cease, and the cervix become quickly dilated. Gentle traction will assist this and check any hæmorrhage, but one must not yield to the temptation to deliver quickly. Laceration of the cervix is a dangerous accident in an ordinary case, but much more so in a placenta prævia on account of the vascular condition of the parts.

Podalic version was the method most generally adopted in the cases tabulated. If the os is sufficiently dilated to allow the hand to be passed in, this can be quickly done. If the cervix is soft you can generally dilate it sufficiently to pass your hand, or Barnes' bags or Champetier de Ribes' single bag can be used. The latter I have not used in placenta prævia, but it should be most useful provided it did not burst. I have had three of them burst, and shall shortly relate a most unfortunate accident with one of them.

In the central or complete variety, if you cannot strip the placenta off so as to pass your hand round it, it is better to push your hand through it.

In either variety if the os is sufficiently dilated delivery should be accomplished at once, either by turning or forceps. Forceps, perhaps, gives a better chance to the child.

In one case all I did was to rupture the membranes and wait. In the lateral or marginal varieties this may suffice, provided the presenting part of the child will act as an effectual plug and dilator, and you watch your case closely. This method has lately been advocated as applicable to all cases, but I should be very chary of trusting to it except in such cases as I have indicated. It is claimed that strong contractions will come on when the liquor amnii drains away, but unfortunately this is not always the case, and if you have to turn, the operation is rendered much more difficult and the bipolar method practically impossible.

In the central or complete variety it has been suggested to push your finger through the placenta and strip the amnion off the inside of the placenta without rupturing it, and allow it to protrude through the opening to act as a dilator and plug. This seems to me a very precarious method. The amnion is said to be easily stripped off, but it is far too weak a membrane to act as an efficient plug and dilator.

Stripping the placenta off as high as one can reach is sometimes very useful in checking the hæmorrhage, and it allows dilatation to take place more rapidly, but it diminishes the chances of the child.

**TREATMENT OF SHOCK.** By T. L. RHOADS, M.D., *Therapeutic Gazette*, October, 1897.

Dr. Rhoads sums up the treatment of shock following operation as follows:—

- (1) Prophylaxis before and during the operation.
- (2) Wrap the patient in a warm blanket and apply hot water bottles or hot bricks and a hot-air apparatus.
- (3) Lower the head and shoulders.
- (4) Apply sinapisms to the precordium.
- (5) If severe shock, perform hypodermoclysis; if alarming, perform saline transfusion.
- (6) Give an enema of six ounces of strong, hot coffee.
- (7) Massage the abdomen and apply an abdominal compress.
- (8) Elevate the limbs, surround them with cotton-wool, and bandage.
- (9) Administer hypodermic injections of liquor ammoniæ aromaticus in  $\frac{1}{2}$ -drachm doses every fifteen minutes, and atropine sulphate, 1-100 grain, every half-hour, until reaction sets in.—*Therapeutic Gazette*, October 15, 1897.

**SERUM THERAPY IN PUERPERAL INFECTION.** By Dr. WALLICH. *Centralblatt für Gynäkologie*, August 7, 1897.

Wallich comes to the following conclusion in regard to the use of serum-therapy in puerperal infection. After the good results which Marmorek has obtained experimentally with his very strongly prepared anti-streptococcus serum, the hope seems warranted that this means will prove efficacious against the infection that arises from the streptococcus so frequently in childbirth.

His examination extended only to the point of ascertaining whether Marmorek established and demonstrated that anti-streptococcus serum is a powerful prophylactic or healing medium against puerperal infection. After careful examination he comes to the conclusion that the mortality, after a methodical use of Marmorek's serum, remains substantially unaltered. Notwithstanding the increase in the amount of injection fluid, even to 750 cubic centimetres, he still found no reason for altering the hitherto customary method of treatment for puerperal infection.

Pinard, however, saw better results in the year of 1897 from the use of Marmorek's serum than in the year preceding.

Weinstein (of Odessa) reported some experimental tests made with Marmorek's serum. He injected cats with the

serum, after having previously introduced streptococcus cultures within the cavity of the uterus. As a result of his experiments he came to the conclusion that the serum acted more as a prophylactic than as a healing remedy, and that the use of large doses and very early treatment are necessary. Zamschin, von Ott, La Torre, Carbajal, and Pinard participated in the discussion. They mostly agreed with Wallich that the streptococcus serum has not yet been sufficiently tested, and that, as a means of cure, it cannot yet be recommended. But the freedom from danger in the use of the remedy invites further tests.

UTERO-ABDOMINAL GESTATION AT TERM. By Prof. LEOPOLD. *Archiv. für Geburtshülfe und Gynäkologie.* Band lii.

Dr. Leopold reports the case of a woman, aged 42 years, in her twelfth pregnancy, who ruptured her uterus two or three weeks before quickening by falling down the cellar stairs, striking upon her sacrum and nates. Neither hæmorrhage nor abdominal inflammation followed, and she soon recovered. When the foetal movements began, however, they caused such severe abdominal pain as to keep the patient almost completely bedridden. They ceased about three weeks prior to term, and the patient then complained of hot and cold sensations, headache, and much discomfort. There was no discharge of blood or decidua. On admission to the hospital a diagnosis of left-sided extra-uterine pregnancy was made, with a probable mature foetus dead about three weeks. On making an abdominal section the foetus was discovered lying in a thin sac; it was extracted by the head, and the pelvis and feet, which lay near the pancreas, on escaping were followed by a coil of small intestine, with which they were probably in direct contact. The umbilical cord passed into the uterus through a perpendicular opening about two centimetres long, situated behind the right broad ligament. The uterus was removed with the placenta, the stump being fastened to the abdominal wound, and gauze drains introduced into the pelvis and foetal cavity. An uninterrupted recovery followed, and the patient left the hospital on the forty-fourth day.

PYÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM. By Dr. E. A. GIBSON. *Glasgow Med. Journ.*, November, 1897.

The case as reported by Dr. Gibson was as follows:—Mrs. L., aged 25, primipara, was delivered of a full term living child on January 22 last. Her doctor, to whom I am indebted for the notes of the case, informed me that the presentation was an occipito-posterior one, and was delivered as such, after a tedious labour, by forceps. The perinæum was torn and sutured. The perinæum healed, except that the most anterior stitch cut out,

and the puerperium was apyretic and apparently normal, the patient getting up on the tenth day. On February 6—*i.e.*, fifteen days after labour—she had a slight rigor, and her temperature was taken by the nurse and found to be  $102^{\circ}$ ; when the doctor arrived about an hour afterwards he found the temperature to be  $101^{\circ}$ . The vagina was douched with Condy's fluid, and the patient was given quinine. Next morning—*i.e.*, February 7—the temperature was under  $100^{\circ}$ , and the patient seemed very well. However, in the evening she had another rigor, and the temperature rose to  $105^{\circ}$ . The next day—*i.e.*, February 8—the temperature remained at  $103^{\circ}$ , and the uterus was douched with 1 per cent. creolin solution; about two hours after this she had a most severe rigor, which lasted fully half an hour, and the temperature rose to  $107^{\circ}$ . She was put in a cold pack, and the temperature came down to  $103^{\circ}$ . On the evening of February 9 the temperature was again  $105^{\circ}$ , and the uterus was again douched with creolin solution. This was followed by another very severe rigor, and the temperature rose to  $106.4^{\circ}$ . I saw her the next morning—*i.e.*, February 10—for the first time. Her condition then was, temperature,  $104^{\circ}$ ; pulse, 130 and very soft. Perspiring freely; marked anxious appearance, abdomen soft, and not at all tender; the lochia were almost dried up, and not at all foetid; the perinæum showed a small granulating wound, apparently quite healthy, in the region of the fourchette. *Per vaginam*: the cervix was split on both sides, but I did not examine the fornices firmly for fear of crushing the thrombosed veins, and so setting free fresh infection. I could make out nothing abnormal in the chest, and the urine was free from albumen.

I advised that she should have injections of anti-streptococcic serum, and at 1 p.m. on the same day 10 cc. of Marmorek's anti-streptococcic serum were injected, at that time the temperature being  $104^{\circ}$ . In two hours the temperature had fallen to  $101^{\circ}$ . At 9 p.m. it was  $102^{\circ}$ , when another 10 cc. of the serum were injected. After this she got a good sleep, which she had not since the second rigor, and felt much refreshed in the morning. Next morning—*i.e.*, February 11—temperature was  $100.8^{\circ}$ . I saw her again in the afternoon, and there was marked improvement in her appearance, the characteristic anxious look having to a great extent gone; her pulse was 110, and not so soft as the day before; temperature was  $102^{\circ}$ . She had another injection of the serum at night. Next morning—*i.e.*, February 12—temperature was under  $100^{\circ}$ , but rose in the evening to  $101^{\circ}$ , when another injection of serum was given. Next evening (February 13) temperature was  $100.4^{\circ}$ , when the fifth and last injection was given. After this the temperature never rose to  $100^{\circ}$ , and she gradually gained strength and was able to leave her bed in three weeks.

P. Z. H.

LIST OF BOOKS RECEIVED.

- Diseases of Women. Skene. Third Edition. Lewis, London.
- De l'incontinence d'Urine, vraie essentielle chez la femme, et de ses divers Traitements, par le Dr. Eugene Singues. Bailliere et Fils, 19, rue Haute-feuille, Paris.
- The Year Book of Treatment for 1898. Cassell & Co., Ltd., London, Paris, Melbourne.
- The Medical Annual, 1898. Simpkin, Marshall, Ltd., London.
- Maternal Syphilis. John A. Shaw Mackenzie, M.D. London: J. & H. Churchill, 7, Great Marlborough Street, 1898.
- Doctor and Patient. Hints to Both. Center. John Wright & Co., Bristol.
- The Middlesex Hospital. Reports of the Medical, Surgical and Pathological Registrars for the Year 1896. H. K. Lewis, 136, Gower Street, W.C.
- The Treatment of Sarcoma and Carcinoma by Injections of mixed Toxins. C. Mansell Moullin. John Bale & Sons, London.
- Inflammation of the Bladder and Urinary Fever. C. W. Mansell Moullin. H. K. Lewis, 136, Gower Street, W.C.
- Das Studium der Frauenheilkunde ihre Begrenzung innerhalb der allgemeinen Medicin. A. Mackenrodt. Verlag von S. Karger, Karlstrasse, 15., Berlin.
- Über die Resultate der Radical Behandlung des Gebärmutter Scheiden-Krebses mit dem Glüheisen. Von Dr. Georg Gellhorn. Verlag von G. Karger, Karlstrasse, 15, Berlin.
- La Gynécologie. Octave Doin, Editeur. 8, Place de L'Odeon, Paris.
- Archie für Gynokologie. Redigirt von Gusserow à Leopold. August Hirschwald, N. W. Unter den Linden, 68, Berlin.
- Artificial Feeding. L. Emmett Holt, A.M., M.D., 5A, Duke Street, Grosvenor Square, W.
- The Substitute Feeding of Infants. T. M. Rotch, M.D. Reprinted from *Pediatrics*.
- The Inguinal Operation for Femoral Hernia. George M. Edebohls, A.M., M.D. Reprinted from the *Post Graduate*, February, 1897.
- The Other Kidney in Contemplated Nephrectomy. S. M. Edebohls, A.M., M.D. Reprinted from the *Annals of Surgery*, April, 1898.
- Chavasses' Advice to a Mother, Chavasses' Advice to a Wife. Revised by F. Barnes, M.D., F.R.S.E. J. & A. Churchill, 7, Great Marlborough Street, London.
- Operative Gynæcology. By Mr. Kelly. Hirschfeld Brothers, Publishers and Booksellers, 22 and 24, Breame Buildings, Fetter Lane.
- Sajou's Annual and Analytical Cyclopædia of Practical Medicine. The F. A. Davis Co.

# THE BRITISH GYNÆCOLOGICAL JOURNAL.

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VOL. XIV.—NO. 54.

AUGUST, 1898.

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*THE BRITISH GYNÆCOLOGICAL SOCIETY.*

THURSDAY, MAY 12, 1898.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 42 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—J. F. Butler-Hogan, Leyton ; T. Carwardine, F.R.C.S., M.B., B.S., Bristol ; H. Chestnutt, L.R.C.P., L.R.C.S., Tralee ; J. J. Clarke, Walthamstow ; Owen C. Coker, L.R.C.P., L.S.A., London ; E. F. Flynn, L.R.C.S.I., L.R.C.P., Clapham ; R. E. Foote, M.D., R.U.I., M.Ch., Wood Green ; W. F. Hingston, M.D., M.B., M.Ch., Deptford ; H. Oppenheimer, M.D.Heidl., M.R.C.P., London ; J. Inglis Parsons, M.D.Durh., M.R.C.S., M.R.C.P., London ; R. B. Sealey, L.R.C.S.I., L.M., Disley ; J. Pollock Simpson, M.D.Glas., M.B., C.M., London ; A. Spearing, Ph.D., L.F.P.S.Glas., L.M., Shaw ; W. J. Sprott, M.D., R.U.I., M.Ch., L.M., Beeston ; F. W. Stokes, M.D.BruX., L.R.C.P.I., M.R.C.S., London ; F. J. A. Waring, M.D.BruX., L.R.C.P.I., Brighton ; W. Wigglesworth, L.R.C.P., Hackney ; A. W. Wigmore, L.R.C.P., London ; D. Wilson, M.A., R.U.I.,

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II

M.Ch., L.M., Bushey ; T. Wilson, M.D.Lond., M.B., B.S., F.R.C.S., Birmingham.

The following gentlemen were proposed for election :—

J. Allen, M.D., R.U.I., M.Ch., Pietermaritzburg, Natal ;  
T. Gelston Atkins, B.A., R.U.I., M.D., M.Ch., L.M., Cork ;  
A. Blakiston, L.R.C.P., L.R.C.S., L.M., London ; N. F. Fitzmaurice, L.R.C.P., L.R.C.S., Stockport ; R. Grant Franz, Schwalbach ; A. S. Hanson, M.R.C.S., L.R.C.P., Fareham ; Howard A. Kelly, Baltimore ; J. G. Douglas-Kerr, Bath ; W. M. O'Connor, B.A., M.B., B.Ch., L.M.Rot., Aldershot ; G. L. Kerr Pringle, M.B., C.M., Bridgwater ; G. D. Wilson, L.R.C.P., L.R.C.S., Clapham.

#### SPECIMENS.

##### MYOMA OF THE UTERUS REMOVED BY HYSTERECTOMY.

By J. FURNEAUX JORDAN.

Mr. J. FURNEAUX JORDAN showed a multinodular myoma, which he had removed from a patient eight weeks previously.

The history of the case showed that she had not suffered at all at her menstrual periods and had not been conscious of any tumour, but had suffered for over two months from severe rectal and bladder trouble. For the last month she had suffered from hæmorrhoids, had had the greatest difficulty in getting the bowels moved, and had noticed that the stools were flattened.

On examination the pelvis was found to be blocked up with a hard, firm tumour, two or three nodules of which could be felt above the symphysis rising into the abdomen.

On March 16 complete hysterectomy was done by the combined method. Owing to the tumour being wedged tightly in the pelvis only a small portion of the broad ligaments could be ligatured from the vagina. The anterior and posterior peritoneal pouches were opened and then the abdomen was opened and the upper portion of the broad ligaments secured by ligatures, and the whole tumour re-

moved. This part of the operation was rendered very difficult, because the tumour could not be pulled out of the pelvis into the abdomen until part of the broad ligaments had been tied, and it so filled the pelvis that getting down at the side of it was almost an impossibility.

The ligatures were carried into the vagina with a piece of iodoform gauze and the abdominal wound closed. The patient, after considerable trouble in getting the rectum to act, has made a good recovery.

#### UTERINE FIBROID REMOVED BY HYSTERECTOMY.

By GRANVILLE BANTOCK, M.D.

Dr. BANTOCK showed two specimens of multiple fibroids removed by complete abdominal hysterectomy. Both were of small size, but the symptoms were so distressing as not only to justify but to necessitate surgical interference.

The subject of the first was a single lady, aged 32. She had submitted to the electrical treatment, the only evident result of which was that she had two scars, one on each side of the abdomen.

The principal object in exhibiting this specimen was its bearing upon Dr. Alexander's recent paper on the enucleation of fibroids, and it showed how impossible it would have been to apply the method in this instance. The mass consisted of the uterus, a sub-peritoneal fibroid, 1 lb. in weight, growing from the back of the uterus, very low down, and several fibroids in the anterior wall near the fundus. The whole mass weighed a little over 2 lbs. The steps of the operation were as follows : ligature of the ovarian vessels with stout silk (No. 4) cut off short, separation of the bladder, opening the posterior *cul-de-sac*, ligature of the uterine arteries with stout catgut, the ends of the ligatures being brought out through the vagina and secured on the buttocks by a strip of plaster, while a couple of strips of iodoform gauze were finally passed into the vagina. The peritoneal opening was not closed by suture, as the drag on



the ligatures was sufficient to bring the peritoneal edges into apposition.

The second specimen was obtained from a married woman, aged 37, the mother of two children—youngest 12. The mass consisted of a pedunculated fibroid, the size of a small orange, springing from the left fundus, and of the uterine body with an intra-mural fibroid the size of a cricket ball. The patient had been under his observation from time to time for about twenty years, but it was only within the last three years that the fibroids became discernible. Within the last nine months the increase had been rather rapid. For some months she had been obliged to give up bicycle-riding, and latterly could not walk above a mile without great discomfort.

The operation was much the same as in the preceding case, the broad ligaments being unusually short, so that it was impossible to employ the *serre-nœud*, even after enucleation.

An impression seemed to have got abroad that he was wedded to one method of treatment, viz., the extra-peritoneal, by means of the *serre-nœud*, although he had frequently expressed himself to the contrary. He had the curiosity to look back over his more recent cases and the following table would show how unfounded that impression was.

17	Extra-peritoneal ( <i>serre-nœud</i> ) uncomplicated	...	...	7	R
1	"	"	with large R. pyo-salpinx	1	R
1	"	"	with ovarian cystoma	1	R
8	Complete hysterectomy (abdominal)	...	...	7	R 1 D
4	Myomectomy by enucleation	...	...	4	R
1	Hysterectomy—ligature of atrophied uterus	...	...	1	R
<hr/>					
32					31 R 1 D

In the fatal case amongst the complete hysterectomies, the death was due to chronic ulceration of the large intestine, the condition of chronic diarrhœa having been overlooked, through attention not having been called to it. In

the case of hysterectomy treated by ligature, the patient was 62, the tumour had the position, and apparently the relations of a solid ovarian tumour, with numerous adhesions to the right broad ligament and neighbouring structures, and it was not till the pedicle was severed after the application of the usual ligatures that it was found to consist of the atrophied uterus.

LARGE FIBRO-MYOMA OF UTERUS REMOVED BY  
ABDOMINAL HYSTERECTOMY.

Under the care of Mr. CHARLES RYALL.

E. C., aged 36, tailoress, unmarried. Admitted into the Cancer Hospital, January 8, 1898, complaining of an abdominal tumour and great loss at the menstrual periods.

*History of Patient's Illness.*—About seven years ago noticed that catamenia was more copious, and lasted longer than usual, and for this she was treated in a London hospital but without relief. Since then these symptoms have become worse and although the catamenia occurs regularly every four weeks, the loss is excessive and the duration about seven days. She also suffers from severe dysmenorrhœa.

About four years ago an abdominal tumour was noticed, and this has gradually increased in size.

*Past History.*—Always healthy up to onset of present illness. *Catamenia* began aged 14, regular, no excessive loss ; very little pain up to onset of present illness.

*Condition on Admission.*—Thin, slender woman. Extreme anæmia. The abdomen was nearly filled with a large symmetrical tumour rising from the pelvis and reaching to within two inches of the ensiform cartilage. Firm, elastic and painless, and somewhat limited in movement. Loud bruit could be heard. No ascites could be detected. Both ovaries could be felt through the abdominal wall.

*Per Vaginam.*—Cervix high and almost out of reach, but otherwise normal. Tumour could be felt bimanually to be incorporated with the uterus.

Rest and potass. brom. grs. xxx. ter die sumendum was the treatment prescribed for a month, which greatly improved the patient's general state of health. During this time there was one menstrual period, which lasted eight days.

Abdominal hysterectomy was considered advisable because of (1) the great burden entailed in carrying such a large tumour; (2) the excessive menorrhagia and consequent anæmia; (3) the severe dysmenorrhœa.

*February 11, 1898.*—Under ether laparotomy was performed. The uterus brought out of the wound and kept warm by moist sterile cloths. The upper part of the broad ligaments on each side was ligatured and separated from the uterus. Peritoneal flaps were dissected from the anterior and posterior surface of the uterus. The uterine vessels were dissected out and tied in the ascending part of their course about the level of the os internum. Here the uterus was severed with the knife. A wedge-shaped piece was excised from the cervical stump to allow the raw surfaces to be brought together and prevent oozing. This was done with catgut sutures. Over this was sewn the peritoneal flaps, thus completing and closing the pelvic floor. The abdominal wound was closed by three layers of sutures.

The specimen removed weighed 11 lbs. 11 ozs., and revealed a large single soft submucous fibro-myoma in the posterior uterine wall. The uterine cavity was greatly enlarged. The ovaries were four times the normal size, and owing to their intimate connection with the tumour they were removed.

*After-Treatment.*—The bowels acted forty-eight hours after operation, after 5 grs. of calomel by the mouth and an enema of magnes. sulph. (3iv. in a saturated solution). On the fourth day there was an attack of parotitis, which soon got well again, and on the twenty-second day, about the time her menstrual period was due, there was some abdominal discomfort and pyrexia for four days. No cause

could be assigned for this except it was possibly due to the artificial production of the menopause.

Otherwise the after history of the case was uneventful and the patient left hospital having not only improved in health but with increase in weight.

#### FIBROIDS OF UTERUS COMPLICATED BY PREGNANCY.

By FRED. BOWREMAN JESSETT, F.R.C.S.

It is well-known that the effect of pregnancy is to give great impulse to the growth of fibromata. The sudden increase in volume increases the symptom of compression to which it has already given rise, the pain resulting from the pressure of the sacral plexus becoming almost unbearable. Retroflexion of the gravid uterus may intervene and produce symptoms of strangulation. If the fibroid develops below the brim of the pelvis and has its origin in the supra-vaginal portion of the cervix or lower portion of the uterus, the resulting symptoms from compression are rapid in onset and most formidable. They may bear upon the bladder, ureters, rectum, nerves or vessels.

The most common accident and by no means the least serious in such cases, is abortion. Contraction of the uterus may be hindered, the danger of hæmorrhage is great, and the fear of septicæmia is not to be lost sight of. Lefour, out of 307 cases has collected 39 cases of abortion. In 14 the mother died. Nauss, out of 241 cases, noted abortion in 47.

The treatment of these cases must be guided by the seat of the tumour and the nature of the symptoms produced.

If the case be one of sub-serous fibroid of the fundus, it may in no wise interfere with the natural course of pregnancy, and there is also a hope that after parturition the fibroid may disappear, or at any rate diminish considerably in time. In such cases no interference would be justified.

Even in pelvic fibromata, interference is not called for unless symptoms of compression on the bladder or other

vital organs call for such interference, as these tumours have been known to have been expelled at the time of confinement, preceding the foetal head in its descent through the pelvis, or in some cases they have been known to rise above the brim of the pelvis after the rupture of the membranes. Finally, labour being normal, these fibromata have been flattened out, so to speak, in front of the foetal head. All these eventualities have been known to occur, and have, thanks to forceps and version, permitted the termination of the confinement. In some of these cases, by introducing the hand into the vagina, the tumour has been pushed back, or the uterus and tumour rotated so as to allow the confinement to proceed naturally. This expectant treatment must not, however, be carried on too far, as you may lose your patient from exhaustion, if not from hæmorrhage after.

Fibroids of the cervix may in many instances be enucleated through the vagina.

Polypi may be driven before the foetal head.

Interstitial fibroids are much more inaccessible, and the operation for their removal is so serious that one may well hesitate and think, if it would not be wiser to bring an abortion. A great deal must be left to the ability of the surgeon to operate. It must not be lost sight of, however, that induced abortion and induced premature labour themselves present serious dangers.

When the placenta is inserted at the region of the fibroid, so that the uterus cannot contract after delivery, formidable hæmorrhage may occur. The patient is also exposed to the risk of septicæmia. Lefour, in a series of 23 cases of induced labour, lost 3. Tarnier, out of 7 cases, lost the mother in 1, and the child in 3, out of 6 cases delivered with forceps, 4 mothers and 4 children died. In 6 cases where version was practised, 3 mothers and 3 children died. Five women affected with fibroids died before delivery.

Süsserott, out of 147 cases of pregnancy complicated by fibromata that he had collected, says the forceps were

applied in 20, with the result 8 mothers and 13 children succumbed. In 21 cases the placenta was artificially extracted, and in 13 the woman died. Collectively the mortality of the mothers was 53 per cent., that of the children 66 per cent.

Pozzi has collected 28 cases in which Cæsarean section was called for by reason of fibroids, only 4 mothers survived; 15 children were born alive, 8 were extracted dead, no information is given of the other 5.

Sänger has later collected 43 cases of Cæsarean section for fibroids; 7 mothers only were saved, or there was a mortality of 83·7 per cent.

It must not be lost sight of also, that even supposing the mother recovers she still has the fibroid left, which may not reduce in size after the delivery, and hysterectomy may still be necessary.

Johnston affirms that during pregnancy or labour, one third of the mothers and more than one half of the children die, so that where the tumour cannot be removed celibacy is to be recommended.

Case sent to Mr. BOWREMAN JESSETT  
by Dr. MACPHERSON LAURIE, of Weymouth.

M. T., aged 39, admitted April 20. Operation, April 23, 1898.

*Family History.*—No history of cancer, but one of phthisis.

*Patient's History.*—Has never had robust health. Been married three years. No children. No miscarriages.

*Menstrual Periods.*—Commenced 14½; always regular but painful. Pain relieved by flow, which is well established second and third day. Periods last five days. Up to January of this year periods regular. No evidence since.

*Present Illness.*—First noticed abdomen becoming larger soon after marriage (three years ago). She suffered no pain and had no discharge from vagina. Swelling never caused any inconvenience until *one month* ago when she

had difficulty in micturition, and was only able to pass urine whilst lying down. The urine has been noticed to be very offensive the past month.

*Present Condition. The Abdomen. Inspection.*—A small rounded swelling in middle line just above symphysis pubis; it feels elastic. There is another prominent swelling in left iliac fossa, its outline is smooth and extends to one inch of costal margin. This tumour also extends in right iliac fossa, here its outline is irregular and two distinct nodular bosses can be felt.

*Palpation.*—Gives no pain and demonstrates mobility of tumour (upper one).

*Percussion.*—Dulness over lower tumour; dulness in each iliac fossa; resonance between two tumours.

*Auscultation.*—No suspicious sounds over lower central tumour; no souffle; no foetal heart sounds. Loud bruit in each iliac fossa, this is accentuated on left side.

*Measurements.*—

Circumference at level of umbilicus	33 inches
"        2 inches below "	33 "
"        2 "    above "	30 "
Umbilicus to xiphoid cartilage	5 $\frac{1}{2}$ "
"    "    symphysis pubis	7 $\frac{1}{4}$ "
"    "    right anterior super. spine	7 $\frac{3}{8}$ "
"    "    left "    "    "	6 $\frac{1}{8}$ "

*Per Vaginam.*—A most peculiar condition; no cervix felt; finger immediately comes in contact with tumour, which although hard is mobile, and fills the whole pelvis, pressing on bladder in front and rectum behind.

*Urine.*—Denotes cystitis, evidently caused through pressure; contains pus, blood and albumin. Washed out three times daily in boracic acid lotion.

*Heart and Lungs.*—Normal.

Mr. Bowreman Jessett operated, performing abdominal subperitoneal hysterectomy. The broad ligaments on each side had to be ligatured and divided before it was possible to deliver the tumour, which was wedged into the pelvis.

April 23, 1898.—Incision  $4\frac{1}{2}$  in. in length, subsequently made to 6 in. in middle line. Trendelenberg's position used. Tumour, hour-glass-shaped removed; upper being a large fibroid, extending from fundus uteri, lower a large fibroid greatly compressed, and wedged between was the uterus about the size of a cocoa-nut with foetus.

Patient made an uninterrupted recovery, and returned home in six weeks.

In the discussion on these four specimens—

Dr. HEYWOOD SMITH asked Mr. Ryall what material was used for the suture of the peritoneum. When the rise of temperature occurred? Was any suppuration observed? as this might happen sometimes in the stump.

Dr. PURCELL remarked that in many cases when the tumour was low down in the pelvis there might be great difficulty in raising it up, and in such cases Kelly's operation was often the only procedure possible.

Dr. NEIL MACPHATTER (Denver, Colorado) said that though he had had the honour of being elected a Fellow of the Society ten years ago, this was the first time that he had had an opportunity of being present at one of the meetings. In his practice in the Western States he had had a large experience of operations for fibroids; of late years surgeons on the other side of the water had adopted Kelly's method almost exclusively. This method consisted, as a previous speaker had said, in division in turn of the ovarian artery, the uterine artery of the same side, the uterine stump, then the opposite uterine and ovarian arteries. The vessels were secured by forceps first and tied later. Since the adoption of this method, the mortality had fallen about 15 per cent. The operation performed in this way was much more rapid than extra-peritoneal hysterectomy, in which the *serre-nœud* was used.

Dr. ARTHUR GILES, commenting on the rise of temperature mentioned by Mr. Ryall, observed that in many of the cases of intra-peritoneal hysterectomy at the Chelsea Hospital for Women, a rise of temperature was noted



within the first week or ten days, without the formation of any pus. The most probable explanation was that it was due to degenerative changes in the uterine stump, brought about by the cutting off of its blood supply. The absence of purulent discharge from the vagina, and the rapid fall of temperature, which was not accompanied by other bad symptoms, showed that the condition was not due to sepsis.

The PRESIDENT, in referring to the difficulty sometimes experienced in securing the proper action of the bowels, spoke of the value of repeated small doses of sulphate of magnesia. This was the plan now adopted in every case at the Johns Hopkins Hospital. One point was well brought out in the specimens shown, viz., that there was no definite indication for hysterectomy in the mere size of a fibroid tumour. Thus Dr. Bantock's specimen, which was of medium size, was the typical size of tumours that might cause trouble by impaction. Two of the other specimens showed the large size to which tumours might grow before they began to cause serious symptoms. As regards method, he favoured the intra-peritoneal, which he had used in several cases with good results. In cases where there was fear of infection, the uterine canal should be curetted as a preliminary step; and this obviated the necessity of applying the cautery to the stump. He was pleased that they had with them that evening Dr. Macphatter, of Denver, Colorado, whose remarks would certainly meet with the fullest concurrence. With reference to the difficulty sometimes experienced in lifting out the tumour, he would remark that Richelot, Doyen, and others used special elevators for this purpose. He agreed with Mr. Jessett as to the terrible mortality that attended cases of fibroid associated with pregnancy when these were allowed to take their own course.

Dr. HEYWOOD SMITH mentioned that some fifteen years ago, when he was attached to "The Hospital for Women" at Soho, he had a similar elevator or cramp (*i.e.*, like a stone

mason's cramp) put up in the theatre ; no doubt it was there to this day.

Dr. GRANVILLE BANTOCK, in reply, said that when pregnancy complicated fibroids the case should usually be left alone, unless the pelvis was blocked ; for in many cases, with the progress of pregnancy the tumour was found to rise out of the pelvis. In one such case under his observation the patient successfully passed through three pregnancies, and at the end of this time the tumour had disappeared. In another case, in which there were multiple fibroids, one of which occupied the pelvis, the patient was safely delivered at term. But they should be guided by the circumstances of each individual case.

Mr. FURNEAUX JORDAN remarked that in his case it would have been impossible to adopt Kelly's method, because the tumour was tightly wedged in the pelvis. As regards elevation of the tumour, it must be remembered that when this was done the broad ligaments were put on the stretch, and this might lead to slipping of the ligatures. The difficulty with the bowels in his case was not in getting the stools liquid, but in getting them evacuated, owing to loss of power in the rectum. After a time the power came back.

Mr. CHARLES RYALL, replying to Dr. Heywood Smith, said that catgut was used to bring the stump together, and to lace the peritoneum over it. There were two rises of temperature, the first of which was due to parotitis, whilst the second was unexplained. It occurred later, and he did not think that Dr. Giles's explanation would apply. He agreed with Dr. Macphatter that Kelly's method was the best in many cases ; and in some, as when the uterus was held down by adhesions, it was the only method possible, as elevation could not then be done. He spoke highly of the efficacy of sulphate of magnesia given by the rectum, in a saturated solution, especially when there was vomiting ; but, after all, calomel was their sheet-anchor after abdominal section.

Mr. JESSETT remarked that Dr. Bantock's cases of pregnancy complicating fibroid were probably instances of sub-peritoneal growths. Such cases often got on all right, but in the interstitial variety there were often great dangers, one of which was hæmorrhage at the time of the confinement.

THE RISKS TO THE URETERS WHEN PERFORMING HYSTERECTOMY, ILLUSTRATED BY A CASE IN WHICH BOTH URETERS WERE OCCLUDED AND FREED FIFTY-EIGHT HOURS AFTER. By F. A. PURCELL, M.D., M.Ch., Surgeon to the Cancer Hospital.

Wounds of the lower portion of the ureters and their management, much to my regret, must necessarily, in the time at my disposal, be very inadequately laid before you. I must therefore beg your indulgence, and be pardoned for omissions I may make. It may be realised that occlusion happening at the time to both ureters might be in a sense more of an advantage than otherwise. I need hardly say, that in ligating the uterine arteries lay the main cause of endangering the ureters. The unique case I have to report will, however, I trust interest you.

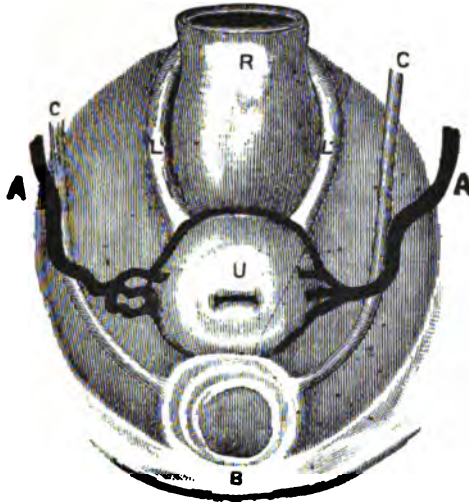
It may be granted, that to demonstrate the relations of the uterine artery and the ureter to a uterus in a normal condition in the pelvis, differ when the neck and body are distorted with disease.

It is necessary to examine a large number of women before one can be in a position to appreciate the fact that no two cervixes are alike.

The whole "normal" cervix on an average is about an inch long and the vaginal portion of the cervix only about one-third inch long.

(1) The uterine artery is a most important vessel surgically, it arises in common with the hypogastric artery, from the anterior trunk of the anterior division of the internal iliac—it takes a course downward and inward between the folds of the broad ligament, until it arrives at a point below

the level of the os internum just above the lateral fornix of the vagina, here it makes a sharp turn across the ureter in a tortuous manner, to the neck of the uterus, turning upwards along the border of the uterus. The ureter lies below the uterine artery and its two veins and above a large vaginal and uterine vein. The vaginal artery may arise directly from the uterine.



Relations of the ureters at the level of the os internum as seen from above (Polk).

U, uterus; B, bladder; R, rectum; A A, uterine arteries; C C, ureters; L L, utero-sacral ligt.

Taken from "A System of Gynæcology and Obstetrics," by American authors. Edited by Matthew D. Mann, A.M., M.D., and Barton Cooke Hirst, M.D. Vol. i., part 1, p. 193.

(2) The ureters are two symmetrically disposed, flattened whitish cords lying in loose connective tissue behind the abdominal and pelvic peritoneum, 10 to 12 inches long. The abdominal portion is from  $\frac{3}{4}$  to  $1\frac{1}{4}$  inch longer than the pelvic portion. The left ureter is longer than the right. The diameter of its lumen is about 3 millimetres, and is

uniform throughout except at each extremity, where there is a slight narrowing.

The whole of the abdominal portion of either ureter can be exposed through a lateral incision without injuring any important structure or ligating any vessels, and without opening the peritoneum, by simply lifting up the ascending or descending colon and drawing the bowel towards the middle line.

At the brim of the pelvis each ureter lies upon the common iliac artery, crossing it about  $1\frac{1}{4}$  inch from the middle of the sacral promontory : just below this it crosses the common iliac vein as it drops into the pelvis beside the internal iliac artery, and usually behind it.

The ovarian vessels cross the ureter, and leave it at the brim as they enter the top of the broad ligament.

Within the pelvis the ureter pursues a sigmoid course, running at first behind the peritoneum of the posterior lateral pelvic wall, close to the internal iliac artery, and then turning forward and crossing under the uterine artery, and passing through a sort of membranous foramen at the base of the broad ligament half-way between the cervix and the pelvic wall, nearer to the cervix on the left side. Beyond the cervix it runs at first parallel to the upper anterior vaginal wall, which it crosses, to pierce the bladder wall obliquely forward and inward, ending at the ureteral orifice at the trigone vesicæ.

The landmark for the first part of the pelvic portion of the ureter is the internal iliac artery, which it sometimes crosses so as to lie in front of it.

The whole pelvic portion of the ureter is accessible to palpation in two ways—either by the vagina, or by the rectum.

By the vagina the ureters are most accessible to palpation at their lower extremities, from the bases of the broad ligaments beside the cervix down to the terminus in the bladder. To palpate the ureter the bladder and rectum should be empty, and the patient lying on her back with

flexed thighs. The examining finger is passed high up into one of the vaginal fornices, pushing it upward and outward toward the pelvic wall, the ureter feels like a flat cord which is constantly slipping away, and can be traced down the pelvic wall to a point at which it passes between the anterior vaginal wall and the bladder.

In palpating its lower extremity the ureter is distinguished by its direction, its size, its consistency, and its mobility.

By the rectum the ureter can be felt from the pelvic brim to the pelvic floor through an empty bowel, the left ureter is the most accessible.

In abdominal operations, where the broad ligament is opened, the ureter may be found by touch, by separating the anterior from the posterior layer of peritoneum and carrying the thumb and forefinger deep down to the pelvic floor, and gathering up the cellular tissue and letting it slip out between the fingers. After a few efforts the ureter will be distinctly recognised, and then easily traced in its course into the anterior part of the pelvis.

The ureter lies below the uterine artery and two of its veins, and above a large vaginal and uterine vein.

Ligation of one of the ureters in performing vaginal hysterectomy is an accident which is peculiarly liable, and comes from passing the first ligatures on the uterine artery too far out from the cervix toward the pelvic wall.

The most skilled operator may make this mistake, when the cervix is unusually enlarged by cancerous infiltration, diminishing the distance to the pelvic wall, and bringing the cervix and the ureters into an abnormally close relationship. Kelly practises a preliminary sounding of the ureters, by placing a flexible bougie in each one, where it remains until the operation is over. By this means, as soon as the peritoneum is opened, the ureter can be felt at once against the side of the pelvis like a hard, firm cord, which the bougies keep splinted out upon the pelvic wall at the greatest possible distance from the cervix. The extreme importance of placing a sound in the ureters has been insisted on by

Kelly, and has been repeatedly illustrated in his cases where the ureter has been bared for one or more inches by a careful dissection.

The relations of the ureters in pregnant women, aside from the physiological elevation of the bladder during pregnancy (the organ is also sometimes drawn upward by a fibroid uterus), are slightly different from those in the non-pregnant, the difference being thus summarised by Polk :—  
“As a rule, the tubes in the pelvis are situated upon a higher level than in the non-pregnant condition, having been carried slightly upward while being separated from their close relations with the pelvic wall by the ascending uterus.”

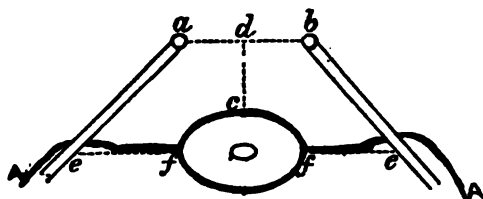


Diagram to illustrate relations of the ureters to the cervix when the patient is in the lithotomy position.

*a b.* From  $\frac{1}{8}$  inch to 2 inches between the orifices of ureters, average  $\frac{1}{4}$  inch.

*d c.* Distance from cervix to a horizontal line joining the orifices of the ureters,  $\frac{3}{4}$  inch to 1 inch.

*e f.* Distance from the side of the cervix to the ureter in a horizontal line passing through the middle of the cervix,  $\frac{3}{4}$  inch.

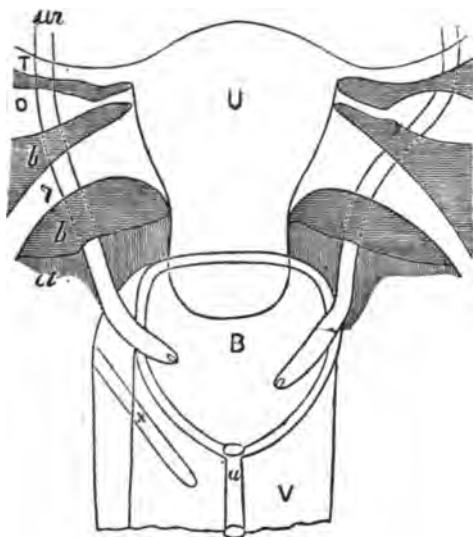
“Diseases of Women,” by Arthur H. N. Lewers, M.D., M.R.C.P., p. 226.

In seven specimens examined with reference to the distance between the orifices of the ureters in the bladder it was found that this varied from  $\frac{1}{8}$  inch to 2 inches, average  $1\frac{1}{4}$  inches.

In three specimens, the distance from the cervix to a horizontal line joining the orifices of the ureters  $\frac{3}{4}$  inch to 1 inch.

The distance from the side of the cervix to the ureter in a horizontal line passing through the middle of the cervix  $\frac{3}{4}$  inch.

Sir Spencer Wells in his paper (published in *Med. Chir. Trans.*, 1881), "On the first successful removal of a gravid cancerous uterus," stated that out of 94 published abdominal hysterectomies, 1 ureter had been divided in 6; and both ureters in 2 other cases. It has since been computed (Dr. Fred Byron Robinson : Discussion on Fenger's paper, *Chicago Med. Reformer*, March, 1893, p. 200), that in every



#### SURGICAL RELATIONS OF THE URETERS (GARRIGUES).

U, uterus; B, bladder; *ur*, ureters; *u*, urethra; V, vagina; T, Fallopian tube; O, ovary; *b*, broad ligament; *r*, round ligament; *ct*, connective tissue.

Taken from "A System of Gynecology and Obstetrics," by American Authors. Edited by Matthew D. Mann, A.M., M.D., and Barton Cooke Hirst, M.D. Vol. i., part 1, p. 195.

100 hysterectomies, vaginal and abdominal 1 or both ureters are tied or cut across in at least 3. I am sure in the experience of Fellows of the British Gynecological Society the injury to one or both ureters has been frequently noted, and has been reported by some skilled operators.



## WOUNDS OF THE URETER.

In the Hunterian Lectures on the "Surgery of the Kidney," Mr. Henry Morris (*vide British Medical Journal*, March and April, 1898), enters on the subject. Great advance has been made in the management of wounds of the ureter inflicted accidentally during the course of ovariotomy, abdominal and vaginal hysterectomy, and the removal of suppurating Fallopian tubes and ovaries.

A great variety of methods have been devised for remedying the injury without sacrificing the kidney. I have more than once seen a ureter divided, and the operator has deliberately tied up the ends of the duct, leaving the kidney to become hydronephrosed. The patients have made recoveries from the operation ; but as to the ultimate success, I am unable to record. The more complete the obstruction, the more rapid the atrophy of the kidney. Occlusion of one ureter never gives rise to fatal anuria if the opposite kidney and ureter are normal.

## METHODS FOR RESTORING.

(a) Those designed to restore the continuity of the ureter.

(b) Those for anastomosing the cut end of the ureter with the external surface, with the bladder or with the intestine.

If the ureter should be wounded during an abdominal or vaginal operation, and the injury detected at the time, one or other of these operations ought to be immediately undertaken.

(a) *Uretero-ureteral Anastomosis*.—The danger of end-to-end anastomosis is cicatricial stenosis about the seat of operation. I can only allude to Weller van Hook's method by lateral implantation, that of invaginating the upper segment into an incision made in the wall of the lower segment of the duct, the patent end of the lower segment being first closed, resembling Maunsell's method carried out of end-to-end anastomosis of the bowel.

Borée in 1895 adopted a plan which consists in suturing the cut ends together obliquely; in his case he converted the transverse division of the ureter into an oblique one, as both ends had been injured and had to be sacrificed (2 to 3 inches of the duct may be sacrificed). No suture penetrated the mucous membrane of the ureter, the peritoneum was carefully sutured over the injured portion of the duct.

A mere puncture, or a small wound, may be securely closed by one or two Lembert sutures and a covering of peritoneum; or by the Heineke-Mikulicz method.

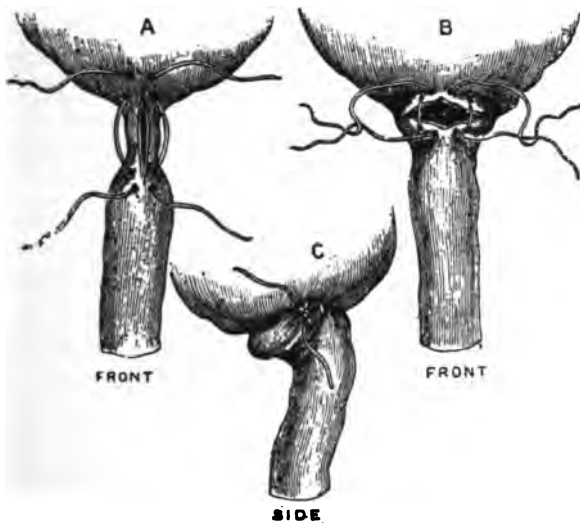


Figure illustrating manner of suturing after division of the stricture. The side view shows a great exaggeration of the pucker produced by tightening the sutures, being the Heineke-Mikulicz method by means of two fine silk sutures passed after the manner of Lembert. See *British Medical Journal*, March 26, 1898, p. 815.

(b) *Ureteral Grafting*.—Mr. Henry Morris summarised as follows:—

(1) Invaginating the fistulous aperture itself into the bladder, after first incising the vesico-vaginal septum.

(2) Grafting the ureter to the bladder through the vagina.

(3) Grafting the ureter into the bladder by an extra-peritoneal route through an incision in the abdominal wall.

(4) Grafting the ureter into the bladder by a trans-peritoneal or intra-peritoneal operation.

(5) After Fowler (*Amer. Jour. Med. Sci.*, March, 1898). Implanting the ureter into the rectum.

It is necessary for the patient to be placed in Trendelenburg's position in performing the abdominal section.

If in doubt as to which ureter is the one occluded the cystoscope should be employed, and ureter-catheterisation has, in expert hands, been found of great use in some cases of doubtful diagnosis.

Several different routes have been taken for partial ureterectomy affecting the lower part of the duct, the parasacral, or, a combination of the inguinal and vaginal methods as recommended and practised by Kelly.

*Symptoms.*—Anuria which follows ligation of the ureters once established may last many days without causing any symptoms of uræmia. Even when the suppression is complete, seven, eight, or ten days may elapse before the symptoms of uræmia appear, and sometimes death occurs without any of the characteristic symptoms of uræmic poisoning arising at all. When the uræmic phenomena supervene after a longer or shorter time, death follows rapidly, or at any rate, within a day or two.

*Uræmic Stage.*—At a variable period the uræmic stage sets in. When the anuria is complete this period arrives mostly about the seventh or eighth day. The symptoms of the uræmic stage may be summarised under three groups : (1) The circulatory ; (2) those connected with elimination ; and (3) those of poisoning.

(1) The pulse is slow and full, and later becomes irregular.

The temperature is low, as in all forms of uræmia, namely from 97° to 97·5°F.

(2) Profuse perspirations may occur, but if so, are suppressed in the last day or two of life.

But more important than the foregoing symptoms is vomiting. This is copious, and due to gastric irritability rather than to supplementary elimination. It is a symptom of bad omen, which precedes and accompanies the uræmic nervous phenomena. Obstinate constipation and meteorism are common intestinal symptoms. Sometimes there is a veritable intestinal paralysis.

(3) Contraction of the pupils and muscular tremors are the two most marked symptoms of the poisoning stage. The temperature falls lower with the progress of the disease. The respiration becomes slow and sighing, and irregular, and the patient dies from paralysis or powerlessness of his respiratory muscles, or, the patient may die of heart failure, without a convulsion, without coma ; occasionally death is caused by coma, or a convulsive crisis, and sometimes by an attack of suffocation, two or three days after the commencement of the uræmia.

Many cases after operations for myoma of the uterus succumb to anuria with dilatation of the ureters and renal pelvis. Opinions have differed as to the precise time when the surgeon should interfere. To be successful, it is certain "the operation of relief" should be done early and before the uræmic stage is reached, in fact, ought to be performed as soon as the anuria is established, and the diagnosis is satisfactorily made.

#### OBSERVATIONS ON THE CASE.

The unique *contretemps* to the ureters in the case herewith reported. Looking at the specimen, it is seen the neck is greatly enlarged in its circumference. It must have pressed laterally up to, if not in actual contact with, the ureters. In ligating the uterine artery, although the tumour was well pulled to the side, little room existed to pass the aneurism needle (armed with silk) around the vessel ; the needle was passed from above deep in the cellular tissue

between and parallel to the ureter and neck of the uterus. Now, what happened, I surmise, was this : the vessel was caught up with some cellular tissue, the artery being of a fibro-elastic nature, and some fibres of the cellular tissue passing from the pelvis both above and below the ureter, after being tied and divided, contracted to the fulcrum, the pelvis, constricted and compressed the ureters. At the subsequent operation of relief, the moment the ligatures on the uterine arteries were removed, relieving the ureters, their patency was restored.

#### THE CASE.—THE SPECIMEN EXHIBITED.

The case is that of K —, a spinster, aged 51, a patient of Dr. Clemow, of Earl's Court Road, admitted to the Cancer Hospital on September 3, 1897. She complained of an abdominal tumour, which caused her great pain, distress from its weight, and pressure to both bladder and bowel, serious floodings and a foul discharge. Never very strong, she is now feeble and greatly emaciated. She menstruated regularly, until onset of present illness, five years ago began to have excessive losses, lasting a week to ten days. For the last few months a vaginal discharge has been copious and foul.

*Examination.*—A large tumour is found to extend above the umbilicus, hard, irregular, and nodular, the whole somewhat fixed.

*Per Vaginam.*—The vagina is found occupied by a mass of sloughing tissue. Sweeping the finger around, the mucous membrane is found smooth ; above the finger passed into the uterus, which was irregularly excavated, thickened and hard, sloughing tissue traced upward—sufficient mobility recognised to admit of removal. Abdominal panhysterectomy recommended, to which the patient, after she was explained the risks, gave her willing consent.

*September 18, 1897.*—Patient, having been duly prepared, was anæsthetised with gas and ether. Mr. F. B. Jessett gave me his assistance.

(1) The abdomen was opened in the middle line, bowel was found low down adherent to the tumour on both sides ; these adhesions were separated.

(2) The ovarian arteries were tied and divided away near the pelvic brim, ligatures placed near the uterus to control reflux hæmorrhage ; further ligating of the broad ligament was made down to a point approaching the uterine vessels.

(3) Tumour was brought out through the abdominal wound. The patient was then raised in the Trendelenburg position.

(4) The flap incision was made anteriorly through the vesico-uterine peritoneum, freeing the bladder, the flap was dissected and pulled down so as to expose the supra-vaginal cervix. The uterus then rolled forward ; the posterior peritoneal flap was incised in same manner.

(5) Pulling the tumour to the off side, the uterine artery was located and the position of the ureter noted ; not much room was afforded to pass the aneurism needle, armed with silk, around the vessel, as the side of the enlarged neck pressed close up to the pelvis. The vessel was tied and divided. The tumour was then pulled over to the near side, and the other vessel tied and divided.

(6) The vaginal wall in front, the spot being located by a pair of long forceps passed *per vaginam*, was there trans-fixed, the wall was divided all round, freeing the tumour. Care was taken to prevent the foul discharge from the body soiling the pelvis. The vagina was full of sloughing *débris*, a swab of gauze with string attached after being soaked in iodoform emulsion, the string being caught from below was pulled down through the vagina. Three more were passed down to make clean the vagina, and a final one was left lodged in the vagina.

(7) The peritoneal flaps were then laced from side to side with catgut, all raw surfaces were made absolutely extra-peritoneal, the pelvis was dry cleaned, the patient was then lowered out of the Trendelenburg position.

(8) The abdominal wound was closed by three layers

of sutures, the peritoneum with continuous catgut, the muscles with interrupted silkworm gut cut short and left buried, and the skin with a continuous horse-hair suture, collodion applied, then the usual dressings and bandage. 7 p.m. the same evening; temperature 102° F.; pulse 142, of low tension; no vaginal oozing; no pain. 9 p.m.; temperature 90·8°; pulse 116; perspiration profuse; catheter passed, drew away 3 ozs. of urine. All hot bottles were removed, bed clothes lightened, hands and face sponged.

*September 19.*—10 a.m.; temperature 98·2°; pulse 100; perspiration less; abdomen slightly tympanitic; no pain; cheerful; had some sleep; no urine; suppression recognised; vaginal plug removed, followed by a bloody discharge. She was douched out with boric solution and the vagina was loosely plugged with iodoform gauze. 5 p.m.; temperature 98·2°; pulse 99; anuria. Turpentine and assafoetida enema administered gave relief.

*September 20.*—a.m.; temperature 97·8°; pulse 90; tongue clean; anuria; vomited repeatedly during night, no headache; abdomen more distended; pain complained of in each loin; some fulness in right side; aspect not favourable. Falling temperature and the sickness denote the uræmic stage approaching. I would have had an operation of relief done now, but ordered a consultation of my colleagues, with instructions to prepare for operation. 9 p.m.; a full meeting of the staff met me, it being the earliest possible time they could be got together; patient much the same as this morning. Consultation; the case was discussed, and it was decided to re-open the abdomen, and deal with the ureters as advisable. 10 p.m.; fifty-eight hours has elapsed since the previous operation; patient anæsthetised with gas and ether, Mr. F. B. Jessett again assisted. A catheter was inserted; no urine passed. The abdominal wound, closely agglutinated, was opened, the patient was put in the Trendelenburg position, and the bowels kept back with a hot flat sponge; by means of a hand electric lamp, the pelvis was viewed, was found clean, no sign of

peritonitis, the laced peritoneum in perfect condition. The right ureter being the first examined was found distended, ballooned to the size of a forefinger, constricted below ; the left ureter presented much the same, not ballooned quite to the same extent. To get at the constriction the laced peritoneum was opened out, below was found free of any discharge or fluid, the ends of numerous thrombosed veins were seen standing out prominently. The end of the silk ligature on the right uterine artery was caught up in a pair of pressure forceps, the knot was cut and the loop drawn away, no blood followed ; the ureter was now seen perceptibly diminishing. To verify this a catheter was passed into the bladder, to which was attached a glass syringe ; we had the satisfaction of seeing about an ounce of clear urine drawn out. The silk ligature on the left uterine artery was removed in the same way, with the same result, and now about two ounces of urine was drawn out. Both ureters were thus proved pervious with no leakage, and had not been encircled by either silk ligature—in fact, were undamaged. The peritoneum was again laced across, and the abdomen closed, dressed and bandaged as before described. I have to thank Mr. Jessett for his kind assistance, and the rest of my colleagues for their sympathetic co-operation.

*September 21.*—2.30 a.m. ; temperature 99°2' ; pulse 112 ; urine 2 ozs. ; 4 a.m., 4 ozs. ; 8 a.m., 5 ozs. ; 10 a.m., 3 ozs. ; 1.30 p.m., 7 ozs. ; 4.30 p.m., 8 ozs. ; 10 p.m., 8 ozs. Thus in twenty-four hours 37 ozs. of urine passed. Evening report ; temperature 99°2' ; vomited once or twice ; she feels distended. A turpentine and assafoetida enema was administered, with relief. Vagina douched and loosely plugged. Taking food.

*September 22.*—She passed a good night, having slept at intervals ; no sickness ; vaginal drain changed, no discharge, again douched and loosely plugged. Twenty-four hours urine, 53 ozs. Acid, sp. gr. 10·12. A trace of albumen.

Patient from this on made an uneventful recovery. The photograph of her, kindly taken by Dr. English in February



last, shows a plump, well-nourished female, a great contrast to what she presented when she was the possessor of the tumour. She enjoys good health and has command over her bladder, with no leakage whatever.

Mr. BOWREMAN JESSETT thought they were much indebted to Dr. Purcell for his report of this case. The diagnosis itself was a matter of considerable interest; and indeed many might have advised that no operation at all should be done. The diagnosis lay between malignant disease and a sloughing fibroid; and the conclusion at which they arrived, and which was borne out by the pathological report was that it was a case of sloughing fibroid undergoing malignant changes. One lesson to be derived from it was that it might have been better to divide the uterine arteries and then remove the tumour, ligaturing the vessels after this had been done. The ureters were not actually tied, but they were kinked by the gathering up of the tissues in the ligatures. Dr. Purcell was to be congratulated on having avoided tying the ureters while securing the arteries, and on the brilliant result of the case.

Dr. GEORGE KEITH related a case he had seen in Edinburgh some fifteen years previously. The tumour was a large ovarian cyst, and after its removal a suspicious-looking small tube was noted upon it. The patient's condition did not warrant further procedures at the time of operation; but the little tube was forwarded to a pathologist, who pronounced it to be not the ureter; but the *post-mortem* examination proved that it was in fact the ureter.

Dr. NEIL MACPHATTER congratulated Dr. Purcell and his colleagues on their decision to re-open; many cases died for want of a little courage on the part of the operator. He had had an experience of trouble with the ureter in his first hysterectomy. He was operating on a case of a very large tumour, which he believed to be ovarian (after removal it weighed 46 lbs.). He had many adhesions to separate, and when some of them had been freed he made use of

the corkscrew by means of which he raised the tumour out of the pelvis. On separating some further adhesions, he saw one of rather uniform size. He was about to tear through it, when the friend who was assisting him said that he thought it was the ureter ; and this proved to be the case. It had been so much elongated by the tumour that, after removal of the latter, the ureter formed quite a little coil.

The PRESIDENT observed that hysterectomy had two main risks—hæmorrhage and danger to the ureters. In many of these cases the relations of the parts were so altered that exact anatomical knowledge was of little avail. When the ureter was damaged it was generally out of its normal position, or was the subject of congenital anomalies. He cited Doyen's recent plan of panhysterectomy as a method by which both of the principal dangers were minimised. Further, Doyen drew out the ovarian and uterine arteries from their surroundings, tying each vessel alone ; so that it was impossible to catch the ureter in the ligature. He had written to several operators of large experience, asking them for their experiences with ureteral injuries. Howard Kelly had written back promising to send his statistics on the subject ; these would be very interesting, but had not yet come to hand. He had also heard from Martin and Landau, of Berlin, Doyen, of Paris, and Kufferath, of Brussels ; and he ventured to think that the letters of these eminent Fellows of the Society would be of sufficient interest to the Society to warrant his quoting them. They were as follows :—

*From Dr. A. Martin, Berlin.*

“ MY DEAR DOCTOR,—I have had very few accidents to the ureters during my operations of hysterectomy.

“ In the vaginal operations I remember 2 cases ; in the abdominal there were 3. These happened during hysterectomy for myoma, a multitude of smaller and voluminous

nodules projecting from all parts of the anterior wall of the uterus. Another instance of ligature of left ureter I met with in a case of multiple outgrowths of the bladder ; one of these was situated close to the inlet of the ureter into the bladder. In spite of all precautions the ureter was involved in the effect of the ligature, lying beside it. I had excised four different parts of the wall of the bladder, having divided this in the median line from the apex right down to the base. I closed the wall of the bladder ; the patient passed water spontaneously from the first, so that I could not suppose that there was any obstacle in the ureter. The patient died the seventh day, without feverish reaction, from uræmia. At the *post-mortem* we found the left ureter excessively filled up to the kidney. I saved one of the first-named cases of lesion in the vaginal operation and closed the fistula afterwards successfully.

" Among the abdominal cases I lost 2 ; 1 in consequence of uræmia, the other by septicæmia after having re-opened the abdomen and freed the ureter. The urine passed freely into the bladder. The patient died some six days afterwards. The third patient recovered ; several operations for closing the ureteral-fistula being unsuccessful. I removed the kidney. The patient is all right now.

" All the cases happened some five years ago, since this time I have not seen any similar complications.

" This gives the experience of more than 2,000 abdominal operations and of some 300 vaginal.

" In 700 colpotomy cases there has been no such complication with the ureter."

Professor Landau, of Berlin, had kindly furnished the following statistics :—

	Number of Cases	Injured Ureters	Remarks.
(1) Laparotomies including abdominal hysterectomies	Over 700	Nil	
(2) Vaginal hysterectomy—			
(a) For cancer ... ..	124	1	Nephrectomy cured. Patient died thirteen months after the operation.
(b) Myoma. Among these many reaching to umbilicus (morcellement)	99	5	1 spontaneously closed; 1 closed by Winckel's operation; 3 cured by nephrectomy.
(c) Concentric hypertrophy of uterus and uncontrollable hæmorrhage	28	Nil	
(d) Inflammatory processes of appendages, complicated pelvic abscess, double pyosalpinx, and double-sided, non-purulent but inflammatory conditions of appendages	270	2	Both cured by nephrectomy.
(3) Combined operation ... ..	...	Nil	
(4) Vaginal coeliotomy ... ..	52	Nil	

*From Dr. E. Doyen.*

"MON CHER CONFRÈRE,—J'ai observé un seul cas de fistule urétérale—après une hystérectomie vaginale pour cancer du corps assez étendu. Il y avait des brides cicatricielles au fond du vagin. Ce cas est mentionné dans ma technique chirurgicale. La fistule ne s'est manifestée que le huitième jour, à la chute d'une eschare. Je l'ai fermé par le procédé décrit page 345 et 346."

*From Professor Kufferath, Brussels.*

"CHER ET HONORÉ CONFRÈRE,—Je vous remercie d'avoir songé à moi au sujet du travail que vous allez présenter à la prochaine réunion du Congrès de la Société Gynécologique de la Grande Bretagne.

"Voici les quelques renseignements que je puis vous donner.

"1. Dans une opération d'hystérectomie totale faite

pour cancer utérin par la *methode de Kraske*, j'ai coupé l'uretère. La malade mourut 15 jours après l'opération. Je n'ai plus recommencé.

"2. Dans mes nombreuses opératures d'hystérectomie vaginale dont le résumé complet n'est pas fait mais qui dépasse la centaine, j'ai eu la chance de ne pas lésser les uretères.

"3. Dans mes laparotomies faites pour kystes de l'ovaire et du ligament large ou pour salpingites, je n'ai jamais eu cet accident.

"Par contre dans un cas de laparotomie pour fibrome volumineux et tres adhérent, j'ai coupé une fois l'uretère.

"L'uretère avait été refoulé par le fibrome qui s'était développé sur la partie latérale gauche et inférieure de l'utérus. La distance du col à l'uretère était de 10 centimetres.

"L'uretère fut trouvé dans la plaie abdominale. La malade guérit. Plus tard on lui partiqua la nephrectomie pour la débarrasser de l'inconvénient de l'écoulement des urines. Elle guérit encore de cette operation.

"Dans nos operations d'hystérectomie pour fibrome par voies vaginale et abdominale combinées, je n'ai pas observé de lésion de l'uretère. Tels sont, cher confrère, les quelques renseignements que je me fait un plaisir de vous donner."

The methods of closing the divided ureter had been mentioned; but he believed that Howard Kelly was the first to do ureterostomy, and also to practise the plan of carrying the lower end of the ureter into the bladder. The method of taking the ureter into the rectum had been given up. There was a discussion at this Society some years ago on injury to the ureters, in which it was suggested that if the ureters were likely to be in danger they should be sounded as a preliminary measure. Since then this plan had actually been put into practice by Howard Kelly. To this brilliant surgeon was due also the important means, which they now possessed, of determining by differential

catheterisation which kidney was the affected one, when nephrectomy was contemplated ; so obviating the necessity of making a preliminary abdominal section for purposes of exploration. The Society would feel it a great honour that Howard Kelly's name had been proposed that evening for election as a Fellow of the Society. In conclusion, Dr. Purcell was to be heartily congratulated on his boldness and success under circumstances which were most trying to any surgeon.

Dr. C. H. F. ROUTH remarked that during the discussion, one patient was stated to have died of uræmia. He would suggest whether in such a case it might not be advisable as a temporary expedient to open the kidney from behind. This would relieve urgent symptoms, and a secondary operation might then be performed later, if necessary.

Dr. PURCELL in reply, thanked the Fellows for the way they had received his paper. No doubt many cases died of injury to the ureters which were not reported ; so that complete statistics were not available. When the cervix was small, there was not much danger to the ureters in hysterectomy ; the risk increased in proportion as the cervix was widened out by the growth. If an injury to the ureter was discovered at the time of operation, he thought Dr. Routh's suggestion might be adopted with advantage ; but if it were not found out till later it would be necessary to ascertain first which side was affected. As a matter of fact if only one side was involved, the remaining kidney would continue excreting, and there would then be no danger of uræmia.

**THE BRITISH GYNÆCOLOGICAL SOCIETY.**

THURSDAY, JUNE 9, 1898.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 43 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—James Allen, M.D., R.U.I., M.Ch., Pietermaritzberg, Natal ; T. Gelston Atkins, B.A., R.U.I., M.D., M.Ch., L.M., Cork ; A. Blakiston, L.R.C.P., L.R.C.S., & L.M., London ; N. F. Fitzmaurice, L.R.C.P., L.R.C.S., Stockport ; A. Grant Franz, Schwalbach ; A. S. Hanson, M.R.C.S., L.R.C.P., Fareham, Hants ; Howard A. Kelly, Baltimore ; J. G. Douglas Kerr, Bath ; W. M. O'Connor, B.A.Dub., M.B., B.Ch., L.M.Rot., Aldershot ; G. L. Kerr Pringle, M.B., C.M., Bridgwater, Somerset ; G. D. Wilson, L.R.C.P., L.R.C.S., Clapham.

The following gentlemen were proposed for election :—W. J. Burleigh-Robinson, M.D.Durh., M.B., London ; Gerald Quin Lennane, L.R.C.S.I., L.M., L.R.C.P.I., L.M., Lavender Hill ; Charles P. Noble, Philadelphia ; P. F. O'Hagan, L.R.C.P., L.R.C.S., Croydon.

## SPECIMENS.

Mr. KEITH showed ovaries and tubes removed from a lady, 37 years of age, where Apostoli's treatment would have failed had it been tried as one tube was full of pus, and secondly, those organs removed from a lady, of 42, when Apostoli's treatment had been carried out four years before with the result of bringing the tumour from underneath the ribs to the level of the umbilicus, and for a time

the patient was quite well. The tumour began to grow, and an attempt was made to repeat the treatment. However too small a dose could be borne, and the ovaries were removed. One, when removed, was almost the size of the closed fist, and was sufficient to prevent the success of the electrical treatment.

Dr. ARTHUR GILES asked Mr. Skene Keith whether he had any experience of the production of a condition of fibro-cystic degeneration of a fibroid under electrical treatment. He had not a personal experience of the use of Apostoli's method, but in a case that was some time under his care electrical treatment was employed, and within a few months the tumour underwent fibro-cystic change. Pelvic inflammation also supervened, and the patient succumbed. He could not say whether the degenerative change was a result or a mere coincidence of the electrical treatment; one with such a large experience as Mr. Skene Keith might be able to throw some light on this point.

Dr. C. H. F. ROUTH, referring to the question raised by Dr. Giles, said that he had used electricity largely in several cases, and had never seen a fibro-cystic tumour result therefrom. As to the effect of electricity, some tumours disappeared rapidly, some slowly, leaving a calcareous mass. In other cases there was no effect at all. They did not yet know what kinds of tumour would be likely to benefit by the method, in spite of all the intelligence and assiduity of Apostoli himself. Till this was ascertained no conclusion could be arrived at.

Dr. BANTOCK observed that fibro-cystic degeneration was not uncommon; and it would be a large assumption that the electricity had anything to do with it; if such a result could follow, it would be a very serious thing, since fibro-cystic degeneration was one of the most serious conditions met with. In cases of fibroid the ovaries were often very large; but he regarded this as only a coincidence.

Dr. BEDFORD FENWICK said that some years ago he took part in some experiments with Apostoli's treatment;



and it was then noticed that the best results were in cases where the tumour was soft and within the muscular tissue; and it would seem that the results were due to the contraction of the muscular tissue; but this was just the result looked for from the use of ergot. He had been much struck with the action of the current in destroying tissues outside the body; and it seemed to him that electricity might have the same effect on the living tissues, with very bad results. The best results would follow the use of electricity when the fibroid was well within the muscular tissue, and so capable of being acted on by the current.

Dr. HEYWOOD SMITH, referring to the coincidence of enlarged ovaries with fibroid tumours, pointed out that it was an undecided question whether the enlargement of the ovaries was the cause or the result of the fibroid change in the uterus; the congestion of the one organ might lead to hyperplasia and overgrowth of the other.

Dr. BURLEIGH ROBINSON observed that when there was much overgrowth of fibroid tissue, as in the case of a uterine fibroid, there must be excess of the blood supply to the parts; therefore the ovary, being connected with the uterus by its blood supply, the increase in the size of the ovary must probably be regarded as consecutive to the formation of the uterine tumour; or perhaps the same changes which led to the one would lead to the other also.

The PRESIDENT asked whether Mr. Skene Keith had seen any direct bad results from Apostoli's treatment, especially in hysterical women. And in view of methods more generally adopted now for pelvic suppuration, salpingitis and pyosalpinx, did Mr. Keith still think that Apostoli's treatment was safer than oöphorectomy or hysterectomy? Had not the electrical treatment special risks which might be as disastrous as these operations? He had tried Apostoli's treatment when it was first suggested, obtaining for the purpose all Apostoli's special appliances, but had given it up, as it had been given up in this country, in Germany, and in Paris itself.

Mr. SKENE KEITH, in reply, thought it would be impossible to attach any importance to the fibro-cystic change which occurred in Dr. Giles's case. Dr. Routh took up just the position that he himself held, that they did not yet know enough about the electrical treatment, otherwise it would be more used. It had certainly not been quite given up, but at present it had somewhat a bad name because it was so often used in a quack fashion. Some cases did well, and others badly ; his experience was that soft fibroids did badly ; the results were quite different with hard fibroids. As to the risks, he felt sure that with proper precautions electrical treatment was attended with no risk at all. But it had to be used with discrimination and care, otherwise pelvic cellulitis might result. As to the ovaries, they were frequently large in these cases ; but the ovaries he had shown came under a different category, as they were in an early condition of transformation into cysts. The good results brought about by Apostoli's treatment were due in his opinion to its effect in diminishing the blood supply of the uterus.

CASE OF ABDOMINAL HYSTERECTOMY OPERATED ON BY  
KELLY'S METHOD FOR FIBRO-MYOMA UTERI.

Under the Care of Mr. CHARLES RYALL.

J. L——, aged 39, Jewess, unmarried, was admitted into the Cancer Hospital on March 22, 1898, complaining of "bleeding from the womb," and great weakness.

*Previous Condition.*—Had been healthy up to six years ago, and previous to that the catamenia (which began at the age of 11 years) had been regular, free from pain and not excessive. Six years ago she had excessive loss at a menstrual period, and this lasted fourteen days, during which time large clots were passed, and subsequently there was only about two weeks' interval between the periods, their duration being from three weeks to one month. For this she was treated by "rest and medicine,"

but without relief. In January, 1895, double oöphorectomy was performed by a London surgeon, which also gave no relief, and in fact the symptoms since then have become gradually worse, and during the four months preceding admission there has been almost continual bleeding, with occasionally a day's interval.

*On admission* the patient was suffering from extreme anæmia, weakness, and emaciation, with frequent attacks of abdominal pain. The old laparotomy scar was not healthy.

*Per vaginam*, the cervix was normal, but the uterus was fixed in the pelvis and incorporated with the uterus, there could be felt a nodular tumour the size of a large cricket ball.

From March 26 to May 6 rest in bed, with liquid extract of ergot and liq. ferri, was given internally, and the patient slightly improved in general health.

*Operation*, May 6.—Laparotomy was performed. A coil of small intestine was adherent to and was freed from the old abdominal scar. Coils of small intestine and the sigmoid flexure were adherent to the uterus and to the left Fallopian tube, which was the only one remaining, and this was considerably dilated. The adhesions were carefully broken down. The patient was then placed in the Trendelenberg position, and an attempt was made to raise the uterus from the pelvis, but this was found impossible. Hysterectomy was then performed by Howard Kelly's method, and the peritoneum was sewn over the cervical stump. There was a good deal of oozing from the adhesions, and it was therefore deemed necessary to drain the abdomen through the abdominal wound, and this was done with simple sterilised gauze.

*After History*.—On the patient being put back to bed, five grains of calomel were administered, and ten hours after this a soap and water enema, which effectually opened the bowels. The gauze drain was removed in twenty-four hours. The patient suffered from severe

vomiting after this, but it was checked by enemata of sulphate of magnesia.

There was nothing more of interest in the after-history, and the patient is already better in general health than she has been for the last six years.

Dr. PURCELL congratulated Mr. Ryall on his case ; it was a very interesting one, especially because previous treatment had been tried. It would be useful to know whether the leaving of one tube was the cause of the failure in the oöphorectomy ; in any case this operation was the cause of the adhesions found. The hysterectomy was difficult, also because the fibroid was so low down in the pelvis. In dealing with these tumours they were not so bold as Doyen and Kelly in securing the uterine arteries ; a very little dissection was sufficient to make sure of the arteries after the peritoneum had been reflected.

Dr. SNOW said that this case suggested to him the general principle that if any operation at all were done, nothing short of radical removal of the uterus and tumour was satisfactory. Some years ago it would have been impossible to remove a tumour so deeply situated as this one was ; the Trendelenburg position alone had rendered such operations possible.

The PRESIDENT remarked that it was only fair to Lawson Tait to remember his statement that the opprobrium in the future of oöphorectomy would be due to an incomplete operation ; consequently, if a part of a Fallopian tube were left behind, a successful result could not be predicted.

Mr. RYALL, in reply, said that while he was not responsible for the oöphorectomy previously performed in his case, he quite appreciated the view that possibly its want of success was due to the leaving behind of part of a Fallopian tube, thus making it an incomplete operation.

THE TREATMENT OF DYSMENORRHOEA. By G. GRANVILLE BANTOCK, M.D., F.R.C.S.Ed. Consulting Surgeon to the Samaritan Free Hospital for Women.

The subject of the treatment of dysmenorrhœa is one of very great importance, and covers such a wide field, that it is necessary to restrict oneself to certain limits for the purpose of discussion.

Mr. Skene Keith has perhaps been a little unfortunate in the title of his paper. Yet while that title covers a very wide field, one quite unsuitable for discussion under the conditions prevailing in all societies such as ours, careful attention to the text shows that he has done wisely in limiting himself to the discussion of a special form of dysmenorrhœa, "which alone," he says, "will be treated of" in his paper.

I call attention, in passing, to the use of the phrase "Uterine Dysmenorrhœa," and ask you to observe the qualification, for I shall return to the subject later on, though in the absence of a more accurate definition I presume that the expression may be regarded as a slip of the pen.

I am glad to be able to give my consent to his main proposition that "dysmenorrhœa is caused" (I may add in a large number of cases) by a malformation of the uterus, "to which must be added the thickening of the mucous membrane along with the congestion, which is natural when moderate in amount, at the time of the menstrual flow." The proposition may not be happily expressed, but it evidently conveys the idea that he is dealing with that form of dysmenorrhœa which is associated with ante flexion of the uterus.

I recognise three typical forms of ante flexion, as follows :—

(1) That in which the flexion occurs at the junction of the body and cervix, in which the body and cervix are both directed forwards, the former lying upon the bladder, and the latter in the axis of the vagina.

(2) That in which the body of the uterus may be in fairly normal position, but the cervix is bent forwards, the flexion occurring in the cervical portion.

(3) That in which the anteflexed uterus—the bend being at the internal os—lies on its back in the bottom of Douglas's pouch.

I quite agree with Mr. Keith in the view that in a case of dysmenorrhœa with anteflexion, the bend *per se* is not alone the cause of pain. It is only when congestion, with its resultant thickening of the mucous membrane from simple turgescence, or that change which goes by the name of hyperplasia, supervenes, and we are face to face with a potential or actual organic stricture, that pain becomes a prominent symptom. This can be proved by a single illustration drawn from many in my experience.

In July, 1894, I was consulted by a lady, aged 28, on account of severe dysmenorrhœa. She had been married five years without issue, and gave the following history:—Menstruation began at the age of 13, and was at first, and for several years, quite painless. (I call your special attention to this fact.) It was not, indeed, till she had reached the age of 20, that she had reason to complain of any pain. At the time of her visit the periods recurred with great regularity, the flow lasted from five to six days, and was rather clotted and dark coloured. As a rule she had "tremendous" pain (the patient's own adjective). The pain used to come on six hours before the flow, but now only about one hour, it is very severe, almost constant for five or six hours, lasts in a lesser degree for the first day, and is much relieved on the second day. It has been much more severe since her marriage. There is a little leucorrhœa. On examination I found a very acute anteflexion, and completely failed to pass the sound. In September she came to town for treatment, which was begun on the 23rd. I quite failed again to pass a sound, and had very great difficulty in getting a fine surgical probe through the internal os. Using this as a guide I passed Nos. 2, 4, 6, and 8 bougies,

then dispensing with the probe I went on with the dilatation up to No. 12. This caused some vomiting, and the instrument could only be retained for a few minutes. The dilatation was repeated five times at two days' interval up to No. 16, and on the last occasion there was no feeling of nausea, while the instrument was retained for two hours. On October 10, the period came on at its proper time, in such a manner that she was not aware of it until she became conscious of the discharge. Soon afterwards she returned home, and menstruated again, two days later, the flow, as on the last occasion, being of a healthy character—very different from what it had previously been—and the pain so slight that to use her own words, "If I had never ~~been~~ to you I should have called it very little ~~and~~ probably not mentioned it." She was ~~delivered~~ of her first child on October 13, 1895, and has since had her second. She no longer suffers from dysmenorrhœa.

Now, it is important to observe that there still remained some flexion in this case, but the canal was patulous, and there was no longer any constriction or obstruction to the escape of the menstrual flow.

Yet it cannot be doubted that the flexion played an important part as leading to the production of congestion, which, in its turn, brought about hyperplasia with organic stricture of the internal os. Hence it would seem to follow, as it does in actual practice, that antispasmodics "can only be," as Mr. Keith says, "at the best, palliative," giving only temporary relief, and that we must have recourse to a method of treatment that will counteract both the bend and the congestion.

The history of the case I have just narrated gives us an insight into the natural history of the form of dysmenorrhœa under discussion, and justifies me in differing from Mr. Keith's view. He says the patient will tell you that "she has suffered from pain since she first began to menstruate." On the contrary, my experience tells me, as in the typical case I have just given you, that even in an extreme case

there is no pain at the beginning of menstruation, beyond the back-ache which is so common in the majority of apparently healthy women, and it is not until one or more years—five years in this case—have elapsed that the special pain begins, at first in a minor degree, but gradually increasing up to the age of maturity. The exception to this will be found in the case in which the patient happens to be the subject of catarrh when the menses first make their appearance.

My explanation of the course of events is as follows :—From the very beginning—assuming that there is no catarrh, and consequently no congestion—the flexion causes some retardation of the flow with no more pain than the ordinary back-ache, or a sense of weight in the pelvis, the frequent repetition leads by degrees to stasis of blood in the organ—in other words, to congestion—and pain of a special character gradually comes on, yet varying from time to time, probably according to variations in the degree of congestion.

That there is a retardation of the menstrual flow is clearly shown both by the character of the discharged blood—as in all cases of obstructive dysmenorrhœa from stricture, organic or otherwise—and by the fact that in every well marked case of the kind under discussion the cavity of the uterus is more or less enlarged— $\frac{1}{2}$  an inch or more. The presence of leucorrhœa is the outward sign of congestion, and the menorrhagia often assumes the form of protracted menstruation rather than actual excess, the discharge being usually dark coloured, often treacly and changing to a dirty brown colour. Of course, in many cases there is a true menorrhagia due to the congestion probably, but clots do not appear as a rule until the second or third day, when the canal has become somewhat patulous.

I agree with the author of the paper that the position of the bend varies, but am at a loss to understand what he means by the bend being “situated in the body of the uterus.” According to my experience, it is situated either in the cervix proper or at the junction of the body and



cervix—in other words, the site of the internal os. Again, according to my experience, flexion of the cervix proper causes only a minor degree of dysmenorrhœa, and it is only in cases of flexion at the site of the internal os that we meet with the more severe forms. In these cases the symptoms forcibly remind one of the first stage of labour which is so often accompanied by vomiting. In a severe case of dysmenorrhœa associated with ante-flexion nausea or actual vomiting is a frequent symptom, and persists until the obstruction is overcome, and the flow is well established. In addition to the evidence furnished by the first stage of labour it can be proved experimentally that the condition of the internal os is the cause of the pain and its accompanying sickness. You have only to introduce a tight-fitting bougie through the internal os, when the patient will at once experience a feeling of nausea and perhaps actually vomit. I have had the latter actually happen in my consulting room—once in the case of the wife of a medical man. This patient has been absolutely relieved from her dysmenorrhœa, and the last time I used a No. 12 bougie it caused her no more inconvenience than does the sound in a perfectly healthy uterus.

I have specially selected this case for the reason that since my paper was begun I have been able to obtain ocular proof that there was no disease of the appendages, for I have had quite recently to subject her to myomectomy. A pedunculated fibroid caused her no dysmenorrhœa.

A more remarkable case is that of a lady, married seven years but sterile, who came under my care in 1892. The uterus was very sharply anteflexed, causing unusual difficulty in passing any instrument through the internal os, and the cavity was much enlarged—to  $3\frac{1}{2}$  inches. The first use of the bougies—up to No. 8—caused distressing nausea, with slight vomiting. The next time—in a private Home—I succeeded in passing a larger instrument, and the result was an attack of vomiting, which lasted for over twelve hours. When I called again the following morning the

patient had already fled. However, a considerable improvement at her next period induced her to return, and I used the bougies very cautiously until a No. 12 could be passed and retained without discomfort. She was delivered of her first child on May 25, 1896, and when last seen was in perfect health. This patient had undergone the electrical treatment.

If you require any further evidence on this point you will obtain it by using a sea-tangle tent. Should the case be one of long standing, you will often find that at the end of twenty-four hours you cannot remove the tent without using undue force. After twenty-four hours more the tent will have overcome the resistance, and the evidence will be complete that the site of the constriction was the internal os, as in the tents which I now show you. Now, it is a remarkable fact that the most extreme constriction of the external os does not cause dysmenorrhœa at all approaching in severity to that produced by constriction of the internal os. As an example, I quote the following case:—

In October, 1892, I was consulted by a married lady, the mother of four children, of whom the youngest was 9 years old. I need not give the details of her history, and it will be sufficient to say, that "having suffered much of many physicians," she consulted me on account of what she called being "too much unwell." The condition was one of protracted rather than excessive menstruation, which had come on gradually during the last three or four years, accompanied by dysmenorrhœa, to which, however, she attached less importance than to the actual flow. The periods lasted from eight to ten days. The pain came on a few days before the flow, and, accompanied with general malaise, was referred to the hips and legs, became more severe during the first two or three days, and continued to the end of the period. Moreover, she was never quite free from pain. There was a considerable amount of leucorrhœa during the interval. On examination I found a thin mucopurulent discharge with irritation of the vaginal mucous

membrane generally, and an increase on the cervix, which was much enlarged. With the finger I could not find the os, and on looking through the speculum, I saw a transverse cicatricial line, a good  $\frac{1}{4}$  inch in length, with a small orifice at one end. Into this a fine surgical probe would not pass beyond the bulb. The patient refusing her assent to the suggested removal of her appendages, of which I did not approve, submitted to the following course of treatment. In the line of the cicatrix I succeeded in "hitting" upon the cervical canal by means of a bistoury, at a depth of about a  $\frac{1}{4}$  of an inch and then dilated the whole canal. After this there was merely a question of keeping the canal open. This was done by means of iodoform gauze packing and repeated dilatation at varying intervals until a permanent result was obtained. There was no dysmenorrhœa after the opening of the canal and the periods assumed a normal character. One cannot fail to note the difference in the character and duration of the pain as compared with that which characterises the cases under discussion.

On four occasions Mr. Keith makes use of the term dysmenorrhœa qualified by the adjective "uterine." I should like to know what precise meaning he attaches to this qualification.

Does he mean that there is a form of dysmenorrhœa other than uterine? Does he accept the doctrine of ovarian dysmenorrhœa, for instance, to say nothing of the various forms enumerated by one of the speakers who has taken part in this discussion? If so, I join issue with him on a very important point, and boldly affirm that there is no such thing as ovarian dysmenorrhœa. It is true that patients often refer much of their pain to the region of one or both ovaries. But if care be taken to analyse these cases it will be found that the seat of the trouble is the uterus, the pain being referred to the ovary, as in hip joint disease the pain may be referred to the knee. When we bear in mind the intimate relation subsisting between the uterus and its appendages both as regards their nervous and vascular

supply we need not wonder at this. That the appendages should partake of the vascular disturbance affecting the uterus is only too natural, and the nerve tension (which is the true and only cause of the pain) must be common to both. It is well known that the ovary, when free from any recognisable disease, like the testicle in man, is very sensitive to pressure. That it should be more so when there is general congestion of the sexual organs does not justify us in ascribing the dysmenorrhœa to that organ. At the present time I have under my care a case illustrating this point in the person of an unmarried lady, aged 21, who began to menstruate at 16 *absolutely without pain*, but who, since the age of 18, has been the subject of gradually increasing dysmenorrhœa associated with ante flexion and congestion. A careful bimanual examination showed that the uterus itself was the more tender of the two, and when the sound was passed through the internal os the patient in her agony cried out "that is just the pain I have when I am unwell." Yet all these three years the pain had been referred to the left ovary (the right has also been implicated in the last three or four periods), and the patient was brought to me because she was thought to be the subject of ovarian disease. The left ovary could be distinctly defined, and was more sensitive than a healthy organ should be, but was not enlarged. The right ovary was not so easily defined. I trust the day is not far distant when by a more careful discrimination ovarian dysmenorrhœa will be relegated to the limbo of exploded theories and disappear from the current medical literature like perimetritis, parametritis, pelvic cellulitis, and the various forms of extra-uterine gestation due to the effects of a too vivid imagination, and a more rational pathology bear sway.

With the statement, then, in the form of a summary of the preceding, that ante flexion is essentially the result of an error in the development of the uterus ; that the bend *per se* is not sufficient to produce dysmenorrhœa, but that it gradually and surely leads on to congestion, and is therefore

a determining cause ; that the congestion produces a potential stricture from within by turgescence of the mucous membrane, and an organic stricture from without by induration of the tissue proper, of the uterus ; that this potential or organic stricture occurs at the site of the internal os in the more severe cases, and that when the flexion affects the cervical portion only the pain is much less severe, I close this part of my subject and pass on to the question of treatment.

Just as I recognise three typical forms of ante flexion, so it happens that I recognise only three rational methods of treatment which experience has taught us to adopt. These three methods are as follows :—

- (1) Division of the cervix.
- (2) The stem pessary.
- (3) Dilatation.

#### I.—DIVISION OF THE CERVIX.

There is no room for doubt that the late Sir James Simpson added much to his reputation by the successful results he obtained in the treatment of cases of sterility by the operation of bilateral division of the cervix. His teaching was readily accepted, but, as so often happens in the case of new methods of treatment, of which we have had numerous examples since his time, it was not long ere the operation was "done to death." Not content with his simple and efficient hysterotome, misdirected ingenuity soon invented the double hysterotome, which was designed to do away with the exercise of the intelligence and skill of the operator, and men with a mechanical turn of mind vied with one another in introducing modifications which might constitute a claim to the distinction of having invented an instrument to which their name could be attached. Simpson's practice of regarding the operation as a serious matter was not followed, and soon rumours of disaster got abroad. I well remember, when a student and in charge of the gynæcological ward in the Royal Infirmary of Edinburgh,

hearing it said that some operators were in the habit of performing this operation in their consulting rooms. The inevitable result was that the operation fell into discredit. For my part, acting on the teaching of my great master, I always regarded the operation as a serious one. I have performed it in a relatively small number of cases, and, I am happy to say, without disaster; but I have seen one fatal case in the hands of a skilful, but too dashing, operator who cut through the uterine substance on one side into Douglas' pouch. But the point which I wish to emphasise most is this, that the operation involved the dominant idea that there was a stricture to be overcome, and that this stricture affected the internal os. Yet there were some—and they appear to have their followers in the present day—who did not accept this view, but who believed that the difficulty was at the external os, and who therefore thought that this alone required division. I have seen several cases of the failure of the latter operation to relieve dysmenorrhœa, and in which subsequent dilatation of the internal os effected a cure. No wonder that it became a source of the witty reproach, that some men divided the external os for others to sew it up. The uterine canal and male urethra have been a common battle-ground for the advocates of the knife and dilator respectively. For my part, I may say I have almost given up the knife—the scissors I never used—though I am free to confess that there was a time when I was much more enamoured of the knife than I am now; and it is to this goal that experience has led me, gradually, but surely.

It is now close upon twenty years since I took part in an important discussion on this subject at the Obstetrical Society of London (Trans., vol. xv.). Experience has only confirmed me in the views I then held, with the exception of this operation. I then said, in reference to Marion Sims' operation of posterior division of the external os, that "all the arguments which had been so forcibly used, and in language simple yet eloquent, by that dis-

tinguished master of his art, had failed to carry conviction to my mind that an operation which results in a lop sided condition can be preferred to one which aims at maintaining the symmetry and integrity of the organ." Nor do I see any reason to change the views I then expressed in favour of the modification introduced by my friend, Dr. E. C. Dudley, the principle being the same. (I may here say that any method of treatment advocated by Dr. Dudley claims and secures my respect.) But if the views I hold, and have endeavoured to express, be correct, then it follows that no operation upon the external os can avail anything when the condition to be remedied has its site at the internal os. A considerable element of doubt thrusts itself upon my mind when I hear of men performing this operation by the score in the course of a year or two, and I am forced to ask myself the question, "Have we the same state of things in view?" It can hardly be so. I have been engaged in gynæcological work for over thirty years, during which I have had a fair amount of experience, and I am bound to say that were I as much in favour of this operation as some seem to be, it would take me considerably over two years to collect a list of twenty cases requiring it. I cannot but think that the *cacoethes operandi* has much to do with the large number of cases of which we hear, as it has in the case of some other morbid or abnormal conditions with which we have to deal, and of which current medical literature furnishes us with many examples. Moreover, personal observation, and veracious report, tell me that this operation is not so successful as some would have us believe.

## 2.—THE STEM PESSARY.

Mr. Skene Keith devotes to this method one short paragraph of two sentences. In the first he says, "the stem pessary has had its day," and in the second "it is unscientific, and, what is much worse, it can only relieve, seldom cures, and may do harm."

The first remark I have to make is that I am driven to the conclusion that Mr. Keith can have had little, if any, experience of this instrument. Many men have borne testimony to the good results they have obtained from this method of treatment, and these recorded results are utterly at variance with the sweeping denunciation contained in Mr. Keith's short paragraph. Listen to the late Dr. Wm. Goodell. With an "unhappy experience fresh on my mind, I was led to condemn the use of the intra-uterine stem. But, since then, a ripper experience has taught me a good deal about the pessary, and has wholly changed my views with regard to its use. I now hold that there are certain stubborn cases of ante flexion, and, for the matter of that, of retro flexion too, which can be satisfactorily treated in no other way than by this stem" (*Lessons in Gynæcology* [1897], p. 179). I am not ashamed to confess that I still believe in the value of the stem pessary—of which I may here state for the sake of brevity that the only form I now employ is Meadows' compound stem—for it has served me well. It must, however, be obvious that its range of application is limited, that married life is a bar to its employment, and that it can only be used in the unmarried or widowed subject. In several instances of patients contemplating marriage I have advised the postponement of that proceeding, have caused the patient to wear a stem pessary for from nine to twelve months, and removed the instrument a week or two before the interesting event. In every case the dysmenorrhœa has been relieved, and the patients have subsequently become pregnant. Need I adduce the fact that is well known to gynæcologists that the presence of a foreign body in the cervical canal causes dilatation of that canal to an extent much beyond the size of the body that occupies it? Were it not so, the dysmenorrhœa would be aggravated rather than relieved by the treatment.

For the third form of ante flexion, viz., that associated with retroversion of the organ, I know of no other treat-



ment that can be of any avail than that by the compound stem.

I hope there is no one, who has had any appreciable amount of experience, who now believes that a vaginal pessary can beneficially affect an antelexion of the uterus.

It is scarcely within the strict province of our subject, but as a confirmation of Dr. Goodell's statement, I may be permitted to refer to a case which has some bearing on the question of the use and usefulness of the stem pessary. The case is that of a single lady engaged to be married, who came to me from an island in the Mediterranean, and was the subject of a well-marked retroversion, which no vaginal pessary could relieve on account of the flabby condition of the uterus, and who had been advised to undergo the operation of hysteropexy.

After proving to my own satisfaction that no vaginal pessary that I could devise could support the uterus permanently, I adapted a Meadows' stem. She returned to her island home for a year, which she passed in comfort, and came back to report herself and to have the instrument attended to. I removed the instrument and advised her to return and get married. This was done within three weeks, and in due course she presented her husband with twins, I saw her in the course of last summer in perfect health and proud of her twin boys. The uterus was again retroverted but it had regained its tone, and a vaginal pessary kept it in its proper position.

But Mr. Keith, not content with saying that the stem pessary "can only relieve, seldom cures, and may do harm" also characterises its use as *unscientific*. Now I should like to know where the science comes in—to use a familiar, if slang, expression—in the practice of gynæcology or any department of what is properly called the healing art. This is not the time to enter upon a discussion of this subject. That we call in the aid of science properly so called is true, but that does not convert our art into a science, and I can now only deprecate the use either of the substantive or the

adjective in matters pertaining to the practice of medicine or surgery.

3. Dilatation of which there are two methods: (a) the gradual, and (b) the rapid.

*(a) Gradual Dilatation.*

I have the impression that we are again indebted to Simpson for the method of treatment by graduated bougies, and this is the method which experience has more and more tended to force upon my attention. It is simple, and is attended with so little danger that it does not necessarily require that the patient should lie up, and may therefore be done in one's consulting room—a great consideration in many cases. In the case of a consulting room patient, when I am able to pass the sound, I begin with a No. 4 or 6 bougie and go on to 10, 12, or 14, as the case will allow and the patient can bear. The process is repeated as often as possible at intervals of three or four days before the next period comes on, and if begun within a few days of the last period, temporary relief may be afforded in one inter-menstrual interval. Should the case be seen just before a period the effect upon the next will usually show that one is on the right track and will give confidence to the patient. Assuming that complete relief has been given, one must not run away with the idea that the case is done with. In a considerable proportion of cases—and the more severe the case is the more likely it is to happen—it will be necessary, or at least advisable, to repeat the dilatation (at one sitting only) after the lapse of several months. By watching the case in this way a permanent cure can be affected. If, however, the patient, being a married woman, in the meantime become pregnant, one is spared further trouble. When congestion is well marked there will often be free bleeding, but this as a rule helps to diminish the congestion with the aid of other means to that end. To secure a good result the dilatation should be repeated until blood is no longer drawn.

In the case of patients from a distance, and in the more severe cases when practicable, especially when congestion is a prominent feature, I confine the patient to bed, pass the bougies every second or third day, and leave the instrument in as long as the patient can bear it. At the beginning of the treatment it frequently happens that the instrument can only be retained for a few minutes, and will even at once cause vomiting, as in the cases quoted, but as the dilatation proceeds and the congestion diminishes, the pain becomes less and less, so that at last the instrument can be retained without discomfort for several hours. In a more recent case than those already related the pain was so great that the bougie could not be retained for five minutes. Yet within three weeks a No. 14 caused no pain, and could be retained for several hours. This was a case in which division of the external os had failed to give any relief. Within three months after the treatment this patient became pregnant, and was recently delivered at full time.

It is worthy of remark that it sometimes happens that after one or even several dilatations the first bougie causes more pain than the subsequent ones. This arises from the fact that the point of the instrument in passing through the internal os and undoing the flexion, impinges more directly upon the uterine tissue, for the same thing happens when the point is pressed against the fundus.

*(b) Rapid Dilatation.*

The use of the tangle tent may be regarded as a mild form of rapid dilatation, or at least as occupying an intermediate position, and in the earlier years of my practice I often had recourse to it; but I found that its effect was too evanescent, and I had to resort to the bougies afterwards. Although I frequently use the tangle tent in minor gynæcological work, as, for example, in cases requiring dilatation previous to curetting or drainage of the uterine cavity—and find it a most valuable agent and free from the risks with which some associate its use—I have ceased to

employ it in the cases under consideration, except in rare cases in which there is much induration, and the stricture is very resistant, and then only as a preliminary measure. Rapid dilatation is, I believe, for the most part, effected by means of an instrument worked by screw-power, of which there are numerous forms displaying the ingenuity of the inventors. I have had but very little experience of this method, and that not of a favourable kind. I have always thought that the proceeding involved too much bruising or tearing of the tissues, and I have seen one case, in the hands of a skilful and careful operator, in which the operation was followed in a few hours by a temperature of over 103° F. Moreover, the effect is much the same as that of the tangle tent, *i.e.*, it is too evanescent. It is the same with the stricture of the male urethra. I presume no surgeon would think of resting satisfied with forcibly rupturing or dividing a stricture of the male urethra and then leaving the case to Nature. I am satisfied of this—that the best results are obtained by a method which involves the least immediate injury to the tissues, which aims at promoting the disappearance of exudation or hyperplasia—as the process which leads to induration is variously called—at removing organic stricture, and restoring the uterus to a healthy condition.

Apostoli's method has merited, or at least received, but scant notice at the hands of Mr. Skene Keith. I content myself with saying that the evidence put forward on its behalf has not been sufficient to induce me to employ it, that the estimate I formed of its value ten years ago was singularly prophetic, that one seldom hears of it now, and that two out of the three very bad cases of constriction of the whole cervical canal I have seen were caused by this treatment. This is not an encouraging state of things.

Dr. ARTHUR GILES, commenting on Dr. Bantock's statement that in cases of antelexion dysmenorrhœa only came on after the lapse of some years from the onset of menstruation, said that his experience led him to a different conclusion. He had seen many cases in which antelexion

was present, and in which dysmenorrhœa had existed from the very first ; whilst in other cases it was, as Dr. Bantock said, of later occurrence. The explanation of this was that there were two classes of cases of dysmenorrhœa associated with anteflexion : those in which the pain was due to neurosis, and those in which it was of congestive origin. This distinction had an important practical corollary, which was that in the first variety local treatment would almost certainly fail to relieve the symptoms. He ventured to take exception to the term "obstructive dysmenorrhœa" as used in the paper ; for in these cases the flow was almost always moderate, even scanty, and the blood poured out could find its way through even a small internal os ; moreover, "obstruction" would necessarily cause accumulation of blood behind the seat of obstruction ; and this never occurred. He believed the pain to be due partly to painful contractions, and partly to the compression of the swollen and hypersensitive mucosa by the muscular contraction. Dudley's operation seemed to him to fulfil the two main indications required ; first the permanent abolition of the flexion ; secondly, the permanent widening of the canal. There were cases in which it would not succeed ; and he believed the failures would be precisely in the cases he had mentioned, where the dysmenorrhœa owned a neurotic origin. Dr. Bantock did not admit any forms of dysmenorrhœa beyond the uterine. For his own part he classified cases as follows :—1. Those due to constitutional conditions, including in this class cases of malnutrition and cases of neurosis. He thought "ovarian dysmenorrhœa" came properly under the category of neuroses. 2. Those due to local conditions. In this class he included, first, faults of conformation ; secondly, faults of position : these were the varieties of uterine dysmenorrhœa ; thirdly, inflammatory conditions in the pelvis. In cases of salpingitis, oöphoritis, and cellulitis, he believed that the uterine contractions, combined with the increased pelvic congestion, led to dysmenorrhœa, apart from any pathological condition of the uterus itself.

Dr. C. H. F. ROUTH pointed out that dysmenorrhœa might be due to spasmodic contractions at the seat of the os internum, analogous to the contraction of circular muscle fibres in the male urethra and in the bronchial tubes. This condition might be remedied by anti-spasmodic drugs, and by depletory measures, such as the old fashioned leeches. He did not agree with Dr. Bantock that division of the external os was unavailing, he had cured many cases by this means, but it must be done thoroughly ; it had also the advantage of being a depletory measure. Still, no doubt the greatest contraction was at the internal os, as shown by the marked constriction that appeared on any substance like a tent placed in the uterine canal. For the treatment of this defect, Greenhalgh's hysterotome answered very well ; but it required to be carefully used. His own practice was the introduction of a tangle tent, curved to the shape of the uterus, wrapped round with cotton wool and soaked in carbolic acid, this had both an anæsthetic and an antiseptic action. After some dilatation had been secured by this means, he introduced the pessary he had devised for the purpose. This could be left in six, nine or twelve months.

Dr. BUTLER-HOGAN thought that Dr. Bantock was right in saying that division of the external os did no good except by relieving congestion. In cases of ante flexion he agreed with Mr. Skene Keith that pain was present from the beginning of menstruation. Like Dr. Bantock, he thought that the safest as well as the most effectual treatment was that by graduated bougies. He had also had good results from cocaine irrigations with and even without gradual dilatation.

Dr. HEYWOOD SMITH considered that Dr. Bantock was too sweeping in his statements both as to pathology and as to treatment. He believed that dysmenorrhœa occurred, being associated especially with cirrhotic ovaries. He agreed with Mr. Skene Keith that flexion might occur within half an inch of the fundus. Depletion did good in these cases, whether secured by leeches or by puncture of

the cervix. Dilatation alone often failed, for the uterine tissue would stand a great amount of dilatation and return to its former condition. His plan was dilatation by means of graduated sounds, followed by slight bilateral incisions from the cervical canal; he did not believe in complete division of the cervix. He then dilated a little further, when some tearing of muscle fibres could be felt to occur, after which he inserted a glass stem-pessary. But it should be remembered that a stem-pessary could not be used in all cases indiscriminately; if retroversion was associated with the ante flexion, the stem would soon be squeezed out. Dr. Duke, that most prolific of inventors, had introduced a spiral stem, which he had found to answer well in many cases. He agreed with Dr. Bantock that no vaginal pessary was any good in cases of ante flexion.

The discussion was then adjourned to the next meeting.

ORIGINAL COMMUNICATIONS.

EXTRA-UTERINE PREGNANCY.<sup>1</sup>

By JOHN W. TAYLOR, F.R.C.S.Eng.

(Continued from p. 116.)

LECTURE II.—THE THREE INVASIONS OF TUBAL PREGNANCY :—(1) TUBO-ABDOMINAL. (2) TUBO-LIGAMENTARY. (3) TUBO-UTERINE.

*1. Tubo-Abdominal Pregnancy, syn. Abdominal or Ventral Pregnancy.*

WHEN a foetus which has been already formed within the Fallopian tube escapes from the tube enclosed in its *unruptured membranes* into the abdomen of the mother, the pregnancy becomes “abdominal” or “ventral.” If the placenta retains its attachment to the tube and receives sufficient blood-supply from the maternal blood vessels, the pregnancy may pursue an uninterrupted course to term and both child and placenta attain mature development within the peritoneal cavity of the mother. The protection of the unruptured Amnion, however, appears to be absolutely indispensable for this development.

I am aware that in making the statement that a tubal pregnancy thus directly becomes abdominal, I am running counter to the accepted teaching of such authorities as Mr. Lawson Tait and Mr. Bland Sutton. The difficulty in believing this lay in the fact that in most of the recorded cases the child has been described as lying naked and uncovered within the peritoneal cavity of the mother. Our leading authorities have argued, and probably argued rightly, that

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<sup>1</sup> Ingleby Lectures for 1898.



no foetus at any early age could be so exposed to the peritoneal cavity and its secretion and yet survive. They have accordingly sought for some method of explaining how the facts established by observation—the intra-abdominal position of the child—could possibly arise.

The theory advanced is that every extra-uterine pregnancy that has survived the primary rupture of the tube and continued its development has done so beneath the peritoneum, sheltered within the folds of the broad ligament (see broad ligament pregnancy)—that here it has remained until the seventh or eighth month, that then a secondary rupture of the broad ligament cyst has taken place, and the child has escaped among the intestines, “its tissues having arrived at a period of development by that time, which enabled them to resist the efforts of digestion which doubtless would be directed towards them.” (Tait, “Lectures on Ectopic Pregnancy,” p. 59.)

Although those of us who had operated on cases of abdominal pregnancy at full term felt that this theory was far-fetched and mistaken—for no broad ligament pouch from which the infant had escaped could then be found, and although the theory was more or less disproved by isolated cases of abdominal pregnancy reported by Dr. Jessop, by Dr. Champneys, by myself, by Dr. Webster, by Dr. Cullingworth, by Dr. Aust Lawrence, and even by Mr. Tait himself, I do not think we could be said to have any good explanation of the mystery to offer until a case on which I operated at the Spark Hill Hospital for Women on December 11, 1896, brought further light and explained how the child could inhabit the peritoneal cavity of the mother and still survive. On careful examination of the abdominal cavity in this case, conducted by myself and my colleagues Mr. Martin and Mr. Jordan, it was found that a transparent membrane (the amniotic sac) surrounded the foetus and protected it in every direction—that this was invisible on the surface of the intestine, but could be demonstrated as a film passing from coil to coil and completing the sac in which the pregnancy had developed.

The case was reported by me to the Obstetrical Society of London in 1897, and the following account of the operation and parts removed is copied from the TRANSACTIONS of the Society.

"On December 11, 1896, assisted by my colleagues, Mr. Martin, Mr. Jordan, and Dr. Sturge, I opened the abdomen in the middle line, and found that the peritoneum immediately below the incision was thickened, and incorporated with some kind of sac containing a dead, but non-putrid foetus.

"On opening this the child was found lying in the abdomen, bathed in a small quantity of dark bloody fluid. In this some caseous particles were floating. The head of the child lay uppermost, and formed the globular protuberance which had been noticed near the liver. The intestines were visibly covering the body of the child, and the great omentum, forming in one part a thick fleshy body of considerable thickness, passed across the child to a broad attachment on the upper part of the placenta. The latter was situated at the lower pole of the pregnancy, and covered the pelvis. The parts of the child nearest to the incision were the lower limbs, and after pulling the feet outside, and enlarging the incision to admit of the passage of shoulders and head, the child was extracted. The cord was then divided and the child removed.

"On looking into the abdomen the peritoneal cavity appeared to be directly open as in an ordinary abdominal section. The coils of intestine, the lower part of the stomach, and the great omentum were all plainly visible, and separate loops of intestine could be brought out of the incision and examined.

"On very close observation it was first noticed by Mr. Martin, and afterwards confirmed by myself and Mr. Jordan, that a very thin, transparent pellicle or membrane was reflected over all or nearly all of these viscera, and that, notwithstanding the apparent free exposure of the peritoneal cavity, there was in all probability a thin, filmy,

transparent sac enclosing the pregnancy, not capable of separation or differentiation from the peritoneum of any viscus over which it was reflected, except where passing from one to another—as from one coil of intestine to another, or from intestine to placenta. Only under these circumstances was the membrane visible.

“The placenta was of ordinary size, and covered the pelvic inlet ‘like the lid of a saucepan’ incompletely closed, the edge of the placenta being exposed and free on the left side of the pelvis, but closely applied to the abdominal wall on the right side where the cord was situated. The attachments of the placenta were :—(1) a thick band or rope of omentum, which was firmly attached to the upper or serous edge of the placenta on the left side ; (2) several thin attachments or adhesions of small intestine and cæcum to the same surface—these appeared to be possible of explanation as reflections of the thin sac layer (amnion) from the intestine to the placenta—and (3) the deep pelvic attachments of the under surface of the placenta, which at this stage were hidden from view by the placenta itself.

“The band of omentum was ligatured in sections and divided, then the adhesions to bowel were separately tied and cut through. By tilting up the free (left) edge of the placenta it was now possible to discover a broad band of attachment below it in the pelvis. This was seized by a pair of Doyen’s elastic forceps and divided. When this had been done a further part became accessible, and it was found possible by gentle manipulation to secure, either by forceps or ligature, all pelvic attachments before separation, so that the placenta was finally removed without any loss of blood, and therefore with a clear field for deliberate operative work throughout.

“Below the placenta, in the pelvic portion of the sac, was found quite a collection of caseous masses (remains of the vernix caseosa) which was cleared out of the pelvis partly by the fingers and partly by a douche of warm water which was used for washing out the abdomen. The main attach-

ments, which had been temporarily clamped by forceps, were found to come from the right broad ligament. These were ligatured in sections beneath the forceps, and the forceps were then removed.

"On examination of the pelvis where the placenta had been, it was evident that the same arrangement of 'sac' existed here as in the upper abdomen—that is, a fine transparent membrane could be traced throughout, and formed a limiting layer between the usual viscera of the abdomen, pelvis and placenta on the one hand and the child on the other. On replacing the placenta in position this membrane could be traced below the placenta to the bottom of the pelvis on the right side, it was then reflected over the broad ligament and all its attachments to the under surface of the placenta. From this it could be traced all over the placenta, except where intestine or omentum was adherent to its surface. Two thirds (at least) of the placental margin was free, and this was consequently smooth, glistening, and everywhere covered by the thin membrane of the sac.

"Owing to this disposition of the sac within the pelvis the outline of the normal pelvic viscera, the uterus, tubes and ovaries, was considerably obscured, so much so that it was impossible to say whether the right ovary had been removed with the placenta, or whether it had been left in the pelvis below the reflections of the sac.

"The abdomen was closed with silkworm-gut sutures, and a drainage tube left in the lower angle of the wound.

"The after progress of the case was satisfactory and uneventful, except from some chronic suppuration in the lower part of the wound. This appeared to be kept up by caseous remains which had been imperfectly removed, as on more than one occasion some caseous particles were observed in the discharges. The patient was discharged convalescent on January 25, 1897.

"The child weighs 7 lbs., and is a male foetus which has undergone full development within the abdomen of the

mother. The nails of the fingers extend some distance beyond the finger-tips, and are firm and horny. The testes appear to be within the scrotum, and the hair of the head is abundant but short. The trunk and limbs are perfectly developed ; the head is rather large in proportion to the rest of the body, and is bent or twisted to the right, so that the left (or extended) side of the neck and face appears to be permanently larger than the right, the head being fixed laterally towards the right shoulder. There are no signs of decomposition. Closely applied to the head of the child is a perfect cap of membrane, and between this and the head of the child is a considerable quantity of caseous matter. This is the only part where any membranous covering or sac can be distinguished. The umbilical cord and its foetal attachment are in every respect normal.

“The placenta weighs 3 lbs. ; it is thick and fleshy, and of fairly normal consistence. On its upper surface and edge it is marked by (1) the insertion of the cord excentrically placed ; (2) by the attachment of a divided thick band of tissue, probably omental, and (3) by several large distended vessels almost unsupported by any tissue, but directly attached to the placental surface or edge. (These appear to be portions of adherent omentum which have been changed into congeries of dilated veins.)

“The shape of the placenta is peculiar ; the bulk of it is circular, with an excentric cord inserted near one border (the right). Beyond this and separated from it by a deep sulcus is a crescentic mass of placental tissue attached to the main placenta by its horns and lower surface. On the surface of this crescentic part is a pale red fringed mucous patch, which appears to be the fimbriated end of a Fallopian tube. No further trace of tubal structure can be made out on microscopic examination, and on section of the mass it appears to consist throughout of placental tissue. The under surface of the placenta is in many parts as smooth and free as its upper surface, but it is marked by a long strip of raw surface running across the placenta, with a bend or angle

in its course. This marks the attachment of the placenta to the right broad ligament.

"The pregnancy may be regarded as originally one of the right Fallopian tube, which, by gradual erosion or giving way of the upper part of the tube, has passed with unruptured membranes into the abdominal cavity.

"The deep sulcus on the upper surface of the placenta probably marks the line of separation in the tube where the ovum escaped upwards into the abdomen. From the spread-out internal surface of the (ruptured) tube the placenta has continued growing, and has so altered or taken up its structure in process of growth as to render little but the fimbriated end recognisable. The placenta has derived its blood-supply from the vessels of the broad ligament and from the great omentum.

"The case is remarkable for possessing no history of any tubal rupture (or acute illness corresponding to this) throughout the whole course of the pregnancy.

"The conditions and opportunities for observation during the time of operation were unusually good, but in spite of this, the exact state of the upper pole of the pregnancy and its relation to the abdominal viscera must be determined by circumstantial evidence, as it could not be directly seen from the incision.

"From the fact that the head of the child is closely covered by a cap of membrane, between which and the scalp is a copious deposit of caseous material, while below this any evidence of a membranous sac is wanting (except the tear of separation around the forehead and occiput) it may be concluded, I think, that the upper part of the amniotic sac—the membrane forming the extreme upper pole of the pregnancy—has been removed with the foetus; and that, so far as this is concerned, the abdominal cavity has been directly opened. Below this, towards the centre of the pregnancy, the sac has become incorporated with the peritoneum, so that no separation could be made between the two, and no indication of the presence of a sac

could be seen, except at its reflection from one viscus to another as already described.

"At a lower level still—at the 'lower pole' of the pregnancy—the sac was considerably thickened, forming, together with the peritoneum at the lower part of the abdominal incision, a membranous wall fully one eighth of an inch in thickness. Even here, however, no definite dissection could be made between 'sac' on the one hand and 'peritoneum' on the other."

The importance of the case just quoted in the present state of our knowledge cannot be over-estimated. It effectually disposes of much of the theory now current on the subject of advanced extra-uterine gestation. On p. 464 of Allbutt & Playfair's "*System of Gynæcology*" (1896), Mr. Bland Sutton writes: "Observation has demonstrated the fact that in all tubal pregnancies which survive the primary rupture and continue their development, the gestation sac is formed in part by the expanded tube but mainly by the layers of the mesometrium. The proper appreciation of this fact has done much to simplify our knowledge of tubal pregnancy, and no one has more strongly insisted upon its correctness than Lawson Tait."

That this is altogether mistaken is now, I believe, a certainty. The case of abdominal pregnancy here described is a tubal pregnancy which has survived the primary rupture and continued its development, in which the gestation sac is formed by the amnion alone or at most by the foetal membranes and tube, the layers of the mesometrium are intact and the expanded tube is entirely taken up and metamorphosed by the growth of the placenta.

A diagrammatic representation of the pregnancy which is figured on the adjoining page, and in which the omental attachments are omitted as non-essential, may help to make this important variety of extra-uterine pregnancy clearer, and to elucidate the relations of its sac. The essentials of the pregnancy are the fixed placenta growing mainly or

entirely from the tube to which it was originally attached, and the child enclosed simply in its amniotic sac, moving so far as the delicate sac permits it, within the abdomen of the mother. The amniotic sac may be in some places separable from both mother and child, in other parts it may be quite inseparable from the peritoneal covering of the abdominal viscera within the maternal abdomen.

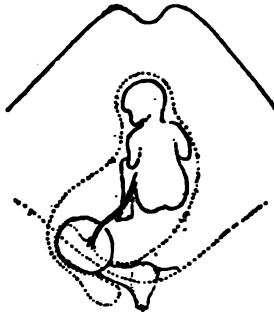


FIG. 1.

The condition is produced in the most simple manner. The pregnancy begins within the tube and grows there until it can grow no longer. Then by rupture or by some slow separation of the tube equivalent to rupture, the tube is opened up. The child within its amniotic sac escapes upwards into the abdomen, the placenta remains attached to the inner surface of the tube, and from this, spread out and flattened by the rupture, the placenta continues to grow.

But this case not only tends to disprove the broad ligament theory as of universal or even general application. It serves another and more important purpose. If the cases of abdominal pregnancy be carefully considered in the light of the explanation here offered, it will be found that most, indeed very nearly all, of the recorded cases in which no definite sac has been found, admit of a similar interpretation.



In Mr. Jessop's case it is stated that "the peritoneal lining, though natural on its free surface, appeared thick and velvety in section," and later on we read : "a few bands of unorganized lymph of a very friable nature lying upon, but not adherent to, the intestines were readily removed by sponging, and about an ounce of a clear serum was found in the peritoneal cavity." The definite amount of serum here mentioned is decidedly suggestive of some unrecognised limiting sac and not of free fluid welling up from the pouch of Douglas out of sight.

In Bandl's case, quoted by Mr. Tait, the foetus was enclosed in a "pocket formed by false membranes." In Dr. Champneys' case, the references to some filmy kind of sac are still more obvious. We read : "The layer immediately covering the foetus was a dull white membrane." Again, "on the child's vertex a patch of thin, sodden-looking membrane was seen and except a shred of similar material removed from the wound (probably torn from the head during delivery) no membranes were seen or felt." In the report of the dissection of the child we read, "There was a sort of cap of sodden membrane (amnion) on the vertex which was covered with dark hairs," and in the report of the autopsy of the mother, "The foetal surface (of the placenta) was also marked by a remnant of membranes which hardly extended beyond the placenta." The similarity between this case and those which I have myself reported is, I think, clear and unmistakable.

The lower pole of the pregnancy does not always take the form described in the case I have just reported and depicted in the illustration.

In a case on which I operated at term, both mother and child surviving, the amniotic sac stopped short at the placental insertion as in normal intra-uterine pregnancy, and the raw under-surface of the placenta had extended or grown beyond its tubal site and was attached to the posterior surface of the uterus, the sigmoid flexure and the pelvic wall as well as to the tube. But though I failed to fully under-

stand it at the time I am now quite satisfied that the pathological relations of the foetus were exactly similar to those I have described as present in the preceding case.

The ragged margin of the amnion in this case may still be seen attached to the placenta, and the rest of the sac was probably continued as a transparent covering or sheath over the small intestines and the under surface of the great omentum around the space from which I removed the child.

The conditions met with in this case are diagrammatically represented in fig. 2. The salient features which separate it from the preceding case will be recognised at once on comparing the accompanying diagrams.

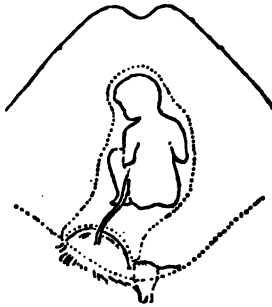


FIG. 2.

There are two other conditions under which the placenta may be found in advanced abdominal pregnancy.

In the first, the tube, although excessively expanded, may retain its individuality, and the placenta be found still lying within it.

In one case of this kind, the case of Dr. Halliday Croom, minutely examined and described by Clarence Webster, he states, "a large, well-formed, recently dead foetus was removed from a sac which extended nearly up to the liver, and which had in the lower part of the abdomen a thick anterior wall. There was an excessive amount of amniotic fluid. The uterus was enlarged, elevated and drawn towards

the right side. The placenta was in a separate sac to the left side of the pelvis—a thick discoid mass extending two inches above the brim. The gestation sac was double, one containing the foetus, the other the placenta. The former was that part of the peritoneal cavity behind the stomach, transverse colon and great omentum; the latter consisted of the enormously dilated Fallopian tube lying in front of the uterus and extending vertically from the utero-vesical pouch to the fourth lumbar vertebra. Though quite distinct from one another they were connected by means of the umbilical cord and amnion; this membrane lined the secondary (peritoneal) sac, and passed into the substance of the primary (tubal) sac."

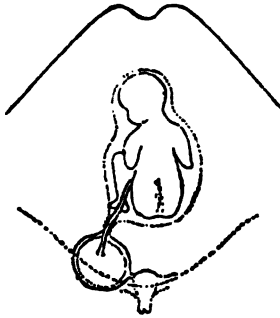


FIG. 3.

Another case very similar to this was reported by Mr. Tait to the Obstetric Society in 1892 under the title of "A Case of Ectopic Pregnancy in which the foetus seems to have been developed to the full time in the peritoneal cavity, still retaining its amniotic covering."

In the report of this case we read, "The child was lying loose in the abdominal cavity except that all its upper surface had become adherent to the omentum and to the anterior parietal peritoneum. The child was still enclosed in its membranes, but the liquor amnii had entirely disappeared. The umbilical cord went straight down to a

round, smooth, globular mass about the size of a cocoa-nut, which occupied the pelvic cavity and was adherent to the surrounding tissues. The question of the removal of the placenta, which this substance really was, occupied my mind for a few seconds. On making tentative efforts to separate the globular mass, I found that it peeled out with considerable ease, much as a broad ligament cyst would, and after it was separated down to a pedicle which was the cornu of the uterus, it became perfectly evident that the globular mass was the right Fallopian tube."

Following the graphic method previously employed to illustrate the relations of the placenta, this form may be diagrammatically represented as in the accompanying figure (fig. 3).

Finally there is one specimen which shows that the abdominal position of the foetus may be associated with an intra-ligamentary placenta. For a long time I failed to find any certain evidence that advanced abdominal pregnancy was ever the outcome or sequel of secondary rupture from the broad ligament into the abdomen. But in examining the various specimens to be met with in London I came across a most valuable one in the St. Thomas' Hospital Museum (No. 2,491), which shows that this is a possible, though, I believe, a very rare occurrence. The accompanying illustration (fig. 4) is a drawing of my own made directly from the specimen itself. There is a large sac formed by the left broad ligament on one side of the uterus—the uterus indeed forms a kind of appendage to its wall—the left Fallopian tube courses over its summit and directly underneath this lies the attachment of the placenta. On the outer side of the sac is a rather large lacerated opening through which the foetus passed into the abdominal cavity.

The specimen is said to be taken from a woman who died at the full period of gestation.

Although the sac is a large one it is scarcely of sufficient size to have contained a full-time foetus, and therefore it

is at all events highly probable that in the later months of pregnancy the foetus surrounded by its amnion was strictly abdominal in position as in the other cases I have been describing. If so, we have a fourth position of the placenta in abdominal pregnancy. Strictly speaking this is "tubo-ligamentary - abdominal," and perhaps should be more correctly described under the next division of my subject, but it is more convenient to take its consideration here. Incidentally, it is worthy of notice what a very marked and unmistakable ligamentary sac is to be found when the foetus has really become abdominal, after passing through an intra-ligamentary stage in its development.

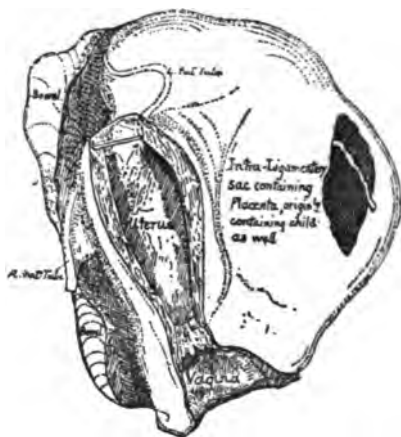


FIG. 4.

The accompanying diagram (fig. 5), the last of the present series, will bring the preceding case in line with the others I have mentioned.

There are accordingly four different relations of the placenta to the main gestation-sac in abdominal pregnancy that need some differentiation.

In the first group of cases the placenta is practically within the main gestation-sac and covered by reflexions of the amnion.

In the second, it has a foetal and maternal surface of nearly equal dimensions as in normal pregnancy—the foetal surface being covered by the amnion and in immediate relation to the sac, while the maternal surface is growing from the spread-out remnants of the tube and from the peri-tubal tissues also—the back of the uterus, the broad ligament, and the pelvic wall being favourite sites for such extensions of attachment.

In the third, the placenta remains within the tube, the tube is still recognizable and the maternal attachments are confined to the tube itself. In this case there may be a double gestation-sac, the one containing the foetus, the other the placenta.

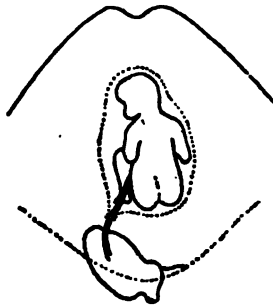


FIG. 5.

In the fourth, the placenta is attached to the upper wall of a broad ligament sac outside the peritoneum and the cord passes to the child through a hole in the ligament.

Before I leave this portion of my subject I want to finally enforce the point that these diagrams showing the different positions of the placenta in tubo-abdominal pregnancy are no mere imaginative figures showing simply possible relations of the pregnancy to surrounding structures. They are records of facts carefully observed, and are each and all supported by extant specimens still available more or less for individual inspection and verification.

The sac in abdominal pregnancy evidently varies greatly

in appearance and consistency. In many of the recorded cases it can hardly have consisted of anything more than the amniotic membrane. This has become attached to the peritoneum, "its epithelial lining becoming destroyed and its sub-epithelial layer (in some places) becoming dense and fibrous" (Webster). In other situations the sub-epithelial layer has been unaffected and the membrane is directly attached to the intestine or the abdominal viscera, is indistinguishable by sight from the proper peritoneal surface of such viscera, and only visible when reflected from one viscus to another as already described.

The membranes are not, however, necessarily adherent in this way; sometimes they have a completely independent existence, and probably all degrees are possible of partial peritoneal attachment. Sometimes their consistency and independence are such that they have been described as being extirpated (Tait) or sutured (Rosenmauer) at the operation for removal of the pregnancy. Cases so described are, however, sometimes open to the suspicion that an unrecognised broad ligament pregnancy has been mistaken for abdominal.

In true tubo-abdominal pregnancy, the sac, consisting at the best of amnion and chorion, and often perhaps of an amniotic layer only, must, if independent, always be extremely thin and easily broken. If completely independent it may admit of removal with the child, but it is extremely doubtful if it could ever possess sufficient independence and consistency to admit of any independent suture. The relation of the placenta to the sac are of chief importance and will need some reconsideration under *treatment*.

*The extra-uterine placenta at term* is an object of considerable interest. Throughout the whole course of the pregnancy the placenta has marked the site of the original and main attachment of the pregnancy, and in its attachment has held and still holds throughout, the key to much of its pathology and treatment. When the infant has

arrived at term the placenta has also reached its fullest development, and so far as my experience goes, the extra-uterine placenta at term, though often deformed in shape, keeps close to the normal standard both in size and weight. The method by which it has attained this development outside of the uterus may well demand our attention. Mr. Sutton states, "the fully developed uterine placenta is composed of parts derived from the maternal and foetal tissues in nearly equal parts; a tubal placenta is mainly, if not entirely derived from the foetal tissues." It is true that there is no clear evidence of a tubal decidua, but the placenta, as it increases in size (like a new growth in its progress) absorbs, takes up and metamorphoses into its own tissue, that of the Fallopian tube in which it was originally enclosed, and possibly the ovary of the same side also. In a considerable number of cases it is reported that neither ovary nor tube could be identified on the side of the pregnancy. So completely is this done that all traces of the tube may be lost at term, or only the fimbriated end be found, as in the case I have described.

When by the reflexion of the amnion this invasion of the placenta is limited to the tube and broad ligament only, the matter is solely one of pathological importance; when there is no such limitation the consequences may be serious.

It will doubtless be noticed that what I have said regarding the pathology and operative history of tubo-abdominal pregnancy appears to explain and confirm in some degree the observations of many of the older writers, and I am pleased to be able in any way to re-establish their credit and re-affirm in the main the correctness of their records.

It is true that they considered that the peritoneum itself might discharge the functions of the foetal membranes (Parry, p. 135), and that the impregnated ovum might from the outset implant itself on the peritoneum, and in both of these guesses after truth they were mistaken.

It is true also that in the abdominal or "ventral" pregnancy they thought they saw the child floating freely among



the intestines within the peritoneal cavity and did not dream of the almost invisible sheath of the adhering amnion which formed a sac to the pregnancy, but in their observation of the fact that there was an extra-uterine pregnancy in which the child was abdominal or ventral in position, and in their opinion that this form of pregnancy deserved to be considered as a distinct and special variety of extra-uterine gestation, they were perfectly justified, and modern research tends only to confirm their view.\*

\* NOTE ON UTERO-ABDOMINAL PREGNANCY.

"Abdominal" pregnancy may be the consequence of invasion from the uterus as well as from the tube. An intra-uterine (normal) pregnancy, after rupture of the uterus, may extrude itself through the uterine rupture, and the foetus, enclosed in its amnion, become "abdominal" or "ventral" exactly as in tubo-abdominal pregnancy. In this case the placenta remains within the uterus, so that if this form of pregnancy be included in our consideration there is still yet another (fifth) position of the placenta that may be encountered in advanced abdominal gestation. Dr. Parry refers to three cases of this class—the case of Patuna (Helen Zopp), the case of Hey (1769), and that of Hofmeister (1829).

The best recorded case is a recent one of Prof. Leopold's, and is published in the *Archiv für Geb. und Gyn.*, B. lii., p. 376. The following abstract is taken from the Epitome of Current Medical Literature in the *British Medical Journal* for June 5, 1897 :—

"ABDOMINAL GESTATION COMPLETED TO TERM AFTER RUPTURE OF THE UTERUS.

Leopold (*Arch. f. Geb. u. Gyn.*, lii., p. 376) relates that a woman, aged 42, ruptured her uterus in her twelfth pregnancy, two or three weeks before quickening, by falling down some cellar stairs and alighting heavily on her sacrum and nates. She had no hæmorrhage or abdominal inflammation, and soon recovered ; but from the time the child's movements began they caused such severe abdominal pain as to keep her almost completely bedridden. About three weeks before the end of her term the movements ceased, she suffered from feelings of coldness and heat, headache, and great discomfort ; there was no discharge of blood or decidua. On admission the case was diagnosed as a left-sided extra-uterine pregnancy, with a mature foetus dead about three weeks. On laparotomy the child was found in a delicate sac, and when it was extracted by the head, the pelvis and feet, which lay near the pancreas, were followed by a coil of small intestine, with which they must have been in direct contact. The cord passed into the uterus through a

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## II. *Tubo-Ligamentary Pregnancy (syn. : Broad Ligament Pregnancy).*

A growing pregnancy, situated in the middle of the Fallopian tube, as it expands the tube, instead of thinning and bursting the upper part of the tube, may separate the layers of the meso-salpinx. The space between these layers, which in the normal state is non-existent or represented by the merest line, becomes under these conditions a space of considerable extent. An increasing amount of the circumference of the tube is accordingly separated from its peritoneal covering and exposed to loose connective tissue only. As the tube expands still further, it is only reasonable

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perpendicular slit, about 2 cm. long, behind the right broad ligament. The uterus was removed with the placenta, the stump secured in the abdominal wound, and gauze drains placed in the foetal cavity and pelvis. She left the hospital on the forty-fourth day in excellent condition. Leopold gives microscopical and macroscopical details (two plates), and concludes that the uterine tissue had suffered from the numerous pregnancies and labours, in the last three of which the placenta had had to be removed by hand ; that the rupture was caused by the posterior surface coming into violent contact with the promontory of the sacrum, and could not have occurred before the seventeenth week, as the reflexa was everywhere in contact with the uterine wall ; that as the placenta remained *in situ* there could have been no sudden escape of the waters, the membranes could not have given way at first, but must have protruded through the gap in the uterus, and been followed by the child's feet and a great portion of the cord ; and that the extrusion of the child must have been gradual. The child, a boy 50 cm. in length, and weighing 2,720 g., was covered with vernix caseosa, and somewhat macerated ; the total length of the cord (49 cm.) corresponded to maturity. The posterior wall of the uterus, very much thinned, showed a cicatrix 6 cm. across and 2 mm. thick, in the centre of which was the opening. A sound passed freely into the uterus all round the cord except at the lower side, where there were some fine adhesions ; there was a supplementary placenta."

The diagram used to illustrate the intra-ligamentary position of the placenta ("tubo-ligamentary-abdominal") may also be taken as representing a utero-abdominal pregnancy, the uterus being enlarged and retaining its placenta.

that it should occasionally give way in this direction and that the foetus should be extruded into the connective-tissue space below the peritoneum. This is indeed exactly what happens in "broad ligament pregnancy."

The rupture of the tube and extrusion of the pregnancy into the broad ligament is usually accompanied by considerable hæmorrhage, which still further distends the space beneath the peritoneum and between its layers.

An extra-peritoneal hæmatocele or broad ligament hæmatoma is the result, and in some cases the pressure and disturbance caused by this is sufficient to stop the progress of the misplaced pregnancy. When this is the case the hæmorrhage is slowly absorbed, and if the pregnancy be early and abortive it undergoes absorption also.

*Broad Ligament Hæmatoma* is of rather frequent occurrence as a sequel to any operation involving ligature of the broad ligament, especially when this is done in the spring or early summer, and the hæmatoma is apt to occur at the first menstrual period subsequent to the operation. Every surgeon who practises operative gynæcology must accordingly be well acquainted with its leading features. It arises suddenly as a tumour or infiltration on one side of the uterus, it roofs the lateral vaginal fornix with a boggy, or hard, immovable cement of blood-clot, and gradually extends upwards towards the groin of the affected side at Poupert's ligament. Sometimes its prolongations below are ill-defined and difficult to trace, at other times the tumour is defined and its border abrupt. When the hæmorrhage is extensive and on the left side, it may encircle and block the rectum as Mr. Tait has shown. At other times, by burrowing in front of the rectum low down in the pouch of Douglas (fig. 6) as in the case of Dr. Hart and Mr. Carter, it may produce a well-defined tumour behind the uterus that closely simulates the intra-peritoneal swelling of a distended and adherent tube. It always causes considerable pain (pain preventing sleep) and is frequently accompanied by transient fever. Broad ligament

hæmatoma is often confounded with cellulitis, and the differential diagnosis is sometimes very difficult. The bare physical signs in both conditions may be identical.

Besides being a rather frequent operation - sequel, hæmatoma of the broad ligament is occasionally met with after labour and abortion, and in connection with menstrual irregularity and arrest when no pregnancy exists. Other cases are due to the intra-ligamentary rupture of a tubal pregnancy as already explained, but these are by no means



FIG. 6.

so frequent as some writers would lead us to suppose. In this respect extra-peritoneal hæmatocele (broad ligament hæmatoma) may be said to contrast with intra-peritoneal hæmatocele. Intra-peritoneal hæmatocele in women is almost always due to tubal pregnancy; hæmatoma of the broad ligament, on the other hand, is only, in the minority of cases, due to this condition.

When the pregnant tube ruptures into the broad ligament, the hæmorrhage may be limited or small in amount and the placental attachment may be undisturbed. If so, the tube retains its relation and attachment to the placenta

while the foetus (instead of escaping upwards as in abdominal pregnancy) escapes downwards between the layers of the broad ligament and undergoes its further development beneath the peritoneum.

Let us take an actual example of this accident and study it more closely. There is a remarkable specimen in Mason College Museum (fig. 7) given by Mr. Hancox, which beautifully shows the condition of a broad ligament pregnancy of four months' growth, and is well adapted for our purpose.



FIG. 7.

On the right side of the uterus in our illustration, the fimbriated end of the Fallopian tube is plainly seen resting upon the roof of a large excavated chamber formed by the upraised layers of the distended broad ligament. If we trace the tube from the fimbriated end toward the uterus, we find that it is soon lost in the expanded roof of the broad ligament chamber. The tube as a tube exists *no* longer. Its middle third is ruptured and spread out, and forms the immediate vault of the pregnancy beneath the peritoneum. It is only with difficulty that we can re-discover some trace of its independent existence on the further side of the broad ligament tumour before it enters the uterus.

The foetus has escaped from its cavernous bed by secondary rupture and is now lying outside the broad ligament. It is still, however, connected by the cord, and if we could trace this upward to its termination we should find the placenta attached to the roof and lateral wall of the cavity in the broad ligament, and plainly situated above the original position of the foetus which has escaped from it.

*Note that the Placenta is Uppermost.*—The course of events has been as follows :—The impregnated ovum was arrested in the tube, where it was arrested it adhered, and vital attachment took place. At the point of attachment the placenta was formed, and no subsequent growth of the pregnancy has separated this attachment. The tube, instead of rupturing upwards into the abdomen, has ruptured downwards into the broad ligament. Into this space the foetus has been driven, and over the buried foetus the placenta is fixed and blocks any upward progress. What is the inevitable consequence? If the pregnancy continues to develop, either secondary rupture must occur, or the peritoneum be continually displaced to make room for the growing foetus.

In this instance the case has ended by secondary rupture, and the patient has evidently died from hæmorrhage, or we should not have such a specimen before us.

Let us now turn to Dr. Hart and Mr. Carter's sagittal sections of a broad ligament pregnancy at nearly the same period of growth (fig. 8). Here we may see an exactly similar condition beautifully portrayed in section. Mark at the highest point the "top of the distended broad ligament and tube"; below this, intimately attached and inseparable from the tube, the mass of the placenta, and again below this, crowded and buried in the lowest part of the pelvis, the unfortunate foetus.

Illustrations intended to show in section the peritoneal reflexions, are sometimes confusing and difficult to understand, but this is exceedingly simple and intelligible. The pelvic peritoneum is lifted by the growth of the pregnancy

until it is no longer pelvic, or only slightly so. Its reflexions before and behind are shallow depressions only, and the arch of it runs across from the promontory of the sacrum to the pubes.

In this instance, too, the case ended by secondary rupture, and the patient died of hæmorrhage, though an attempt was made to save her by exploratory incision.



FIG. 8.

Some of the clinical and operative features of a case at this stage may be gathered from the following example :—

Mrs. S. E. E., aged 31, had been married for three years. She miscarried in April, 1891, and in February, 1892 (at twelve weeks). She menstruated regularly from this date until July, 1892, the last normal period being at the end of this month. Amenorrhœa followed, continued for nearly eight weeks, and was again succeeded by irregular vaginal loss for some two weeks before I saw her on October 10.

The patient gave the history of a sudden attack of pain three weeks before on returning from church in the evening, violent abdominal pain and vomiting being the chief symptoms. This pain was repeated on the following Thursday and Saturday, and to a less extent twice during the week that had just passed. On examination I found

the abdomen slightly distended and a hard tumour to the right of the middle line above the pubes. The uterus was of normal size, pushed to the left and fixed there. A pelvic mass to the right of the uterus was felt to be one with the supra-pubic swelling and only slightly movable together with the uterus. The pouch of Douglas was moderately distended with fluid. The patient was feeble; temperature (on evening of 9th) 100° F.; pulse 120. The diagnosis was made of intra-peritoneal hæmatocele and free blood in the pouch of Douglas, due to the rupture of an extra-uterine pregnancy.

Operation was performed on the morning of October 11, 1892, present: Dr. Leslie Phillips (who assisted me) and Drs. Edge, De la Chérie, Williams, and Addenbrooke. Free fluid blood welled out on opening the abdomen. A ruptured pregnancy was found in the right broad ligament filling up the right side of the pelvis. The hæmorrhage from this (into the abdomen) had been partly confined by adherent, inflamed, and greatly thickened intestine. On separating this the outer coat of the bowel was at one part slightly torn, and this was sutured with a continuous Lembert suture. A large mole of pregnancy was removed from the right side of the pelvis, and the blood and blood clot thoroughly washed out with warm water. No pedicle offered itself for ligation as the pregnancy had been sub-peritoneal. The pelvis was drained.

At the close of the operation, although very little blood was coming through the drainage tube, the patient's condition was very serious. The pulse was 156. Nutrient enemata were ordered to be given every four hours. In the evening the pulse was still 156. On the morning of the 12th, the pulse was 148; at 6 p.m. it was again 156. On the morning of the 13th the pulse was 144. At 4 p.m. on this day, the bowels were moved and the pulse fell to 129 at night. From this date recovery, although slow, was uninterrupted.

In abdominal disease a persistently high pulse-rate is,



more than anything else, the gauge of the severity of the patient's condition. It is worthy of notice that the severity of this case was as marked as it could possibly be, compatible with final recovery. These cases of broad ligament pregnancy with secondary rupture are always serious. Before operation they cannot be differentiated from the cases of later rupture of the tube already considered, but at operation in the more common tubo-abdominal rupture, the hæmorrhage can be at once arrested by ligature of the broad ligament and removal of the tube. In the broad ligament pregnancy with secondary rupture, the case is different—there is nothing definite to tie unless one ligates special vessels; the operation takes longer, the surgeon has to trust to pressure and drainage, and the final result is correspondingly less satisfactory and certain.

The tubo-ligamentary, or broad ligament pregnancy, may go on to term, and in its full development, and during the stages by which it reaches that development, it differs very materially from the tube-abdominal or ventral pregnancy, and will need further consideration from almost every standpoint.

In tubo-abdominal pregnancy, if the patient survive the fourth month and the dangers incidental to the extrusion of the foetus from the tube, she is free from further dangerous complications until the term of pregnancy is near its completion. In the tubo-ligamentary, on the other hand, owing to the higher position of the placenta and its liability to detachment from the growth of the pregnancy, the patient is never free from danger and, although many cases of this kind go on to term, secondary rupture and fatal hæmorrhage are by no means uncommon or impossible at almost any stage of the development. In both varieties, the period of the third or fourth month is a specially dangerous one, because up to this time the pregnancy has received the support and shelter of the pelvis. When the pregnancy rises out of the pelvis into the abdomen, the protection afforded by this is lost, and in the broad ligament form the

gradual elevation of the placenta brings an additional source of danger.

If we look at the specimens and illustrations already taken as typical of tubo-ligamentary pregnancy in its earlier stages, it appears as if the peritoneum had been equally separated in all directions by the growing pregnancy, and certainly in Dr. Hart and Mr. Carter's case of mid-term pregnancy the perfect arch of peritoneum (seen in section), with a sulcus of equal depth behind and in front, marks the case as one in which the pregnancy has been (up to this point) peculiarly symmetrical in its growth and in its displacement of the peritoneum.

But it is not always so. Earlier or later in the history of most tubo-ligamentary pregnancies, the tumour tends to invade or displace the layers of the broad ligament and the peritoneum continuous with these unequally. Sometimes it is the anterior fold of peritoneum which suffers the more displacement, and owing to the work of Dr. Berry Hart and Mr. Carter, these are the cases which are, at present, more recognised and better understood.

The peritoneum is raised from the back, side, and front of the uterus, it is entirely lifted away from the bladder, it is raised from the anterior and lateral abdominal wall, and in this way a good portion of the pregnancy comes to lie in front of the peritoneum. The pregnancy becomes in some places "sub-peritoneal," according to common anatomical language, and may (possibly) be opened from the outside of the abdomen without the necessity of incising the peritoneum anywhere. The pregnancy is, at first, "sub-peritoneo-pelvic," and afterwards (if it continues to grow) "sub-peritoneo-abdominal." It cannot be adequately represented by any mere diagrammatic figure, as the tracing of the actual displacement of peritoneum is intricate, and must obviously show considerable variations in individual cases. If, however, we take a sagittal section of the normal abdominal peritoneum, to be roughly represented by the accompanying figure (fig. 9), and if we take the changes produced

by a normal (uterine) pregnancy to be represented by fig. 10, the main or essential change produced in it by the growth of this form of tubo-ligamentary pregnancy may be approximately depicted by the following alteration (fig. 11).

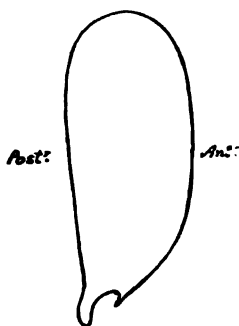


FIG. 9.

Now if this diagram be compared with the actual condition found in a case of advanced sub-peritoneo-abdominal gestation as represented in the frozen section illustration, which by the kindness of Dr. Hart I am permitted to repro-

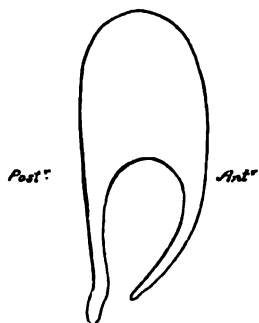


FIG. 10.

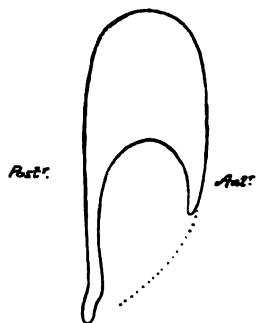


FIG. 11.

duce (fig. 12), it will at once be evident that in both, the posterior layer of peritoneum is unchanged, and that it can be traced uninterruptedly right down to the bottom of the

pouch of Douglas. It is altogether anterior to this where the displacement of peritoneum has occurred, and although in the frozen section plate, this displacement is seen to be complicated by the retention or "survival" of the vesico-uterine fold (apparently cut off from the rest of the peritoneum), yet the general trend of the displacement or lifting is exactly as shown in the diagram.

The anterior part of the pregnancy is that more uncovered by peritoneum, and might possibly be reached by the surgeon without its section.

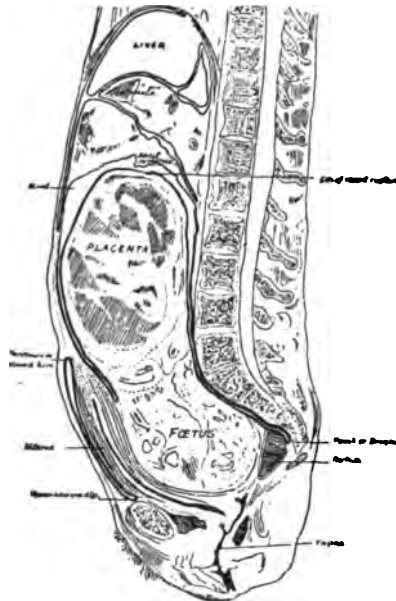


FIG. 12.

It is of course this form of pregnancy which, since it was first fully described, has been very generally accepted as accounting for all cases of advanced extra-uterine pregnancy. It is only right to mention that Dr. Berry Hart himself is in no way responsible for this, and that nothing he has written, so far as I know, affords any foundation for this teaching.

As we have already seen, tubo-abdominal or ventral pregnancy has quite another explanation, and is practically distinct from the tubo-ligamentary variety from the moment that the foetus is extruded from the tube. Now a considerable body of evidence has formed which tends to show that this sub-peritoneo-abdominal pregnancy which I have been describing is not only quite distinct from ventral pregnancy, but represents only a part—and that perhaps the smaller part—of the cases of true broad ligament pregnancy. For sometimes, and probably in the majority of cases, it is the posterior fold of peritoneum (and not the

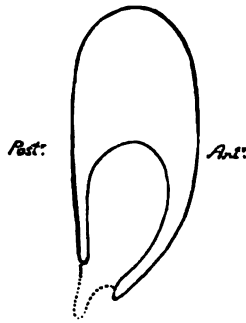


FIG. 13.

anterior) which undergoes the greater displacement, and then the condition found in advanced gestation is altogether different. The peritoneum is raised from the side and back of the uterus. It is raised from the pouch of Douglas and from the rectum and lifted upwards from the posterior pelvic wall as far as the sacral promontory. This appears to mark the usual limit of displacement, and the peritoneum thus raised appears to be sufficient to satisfy the requirements of the growing pregnancy to term. The anterior peritoneum is quite undisturbed, and a diagram approximately depicting the change in the peritoneal relations will have this outline (fig. 13).

On opening the abdomen at or beyond the full period

of gestation, the pregnancy is seen to be everywhere covered by peritoneum much as the uterus is in normal pregnancy, and it is not until the hand is passed behind the sac of pregnancy that one realises that the base of it fills the pelvis on the side from which it is springing, and that the peritoneum is reflected from above the pelvis directly on to the body of the pseudo-uterus. The real uterus is found beneath the sac of pregnancy and pushed to the opposite side.

This condition has been recognised for some years as occasionally met with by the surgeon when operating for the removal of an extra-uterine pregnancy at term, but the explanation of the method of its production was until quite recently imperfect or wanting. In 1892 I reported a case and described the condition, drawing especial attention to the intra-peritoneal nature of the gestation-sac as viewed from the front after abdominal section. I also drew attention to the breadth of its base and to the position of the uterus, and expressed my conviction that the gestation-sac in this variety of ectopic gestation was formed by a "local development of the Fallopian tube and broad ligament" (BRIT. GYN. JOUR., August, 1892). Absolutely true as this opinion was, being practically a rough generalisation of the account I have now presented, there was not at this time sufficient evidence to warrant any detailed history of the local development and displacement of the broad ligament. My own case and others like it had ended favourably and, so far as I am aware, no full or *post-mortem* investigation as to the exact relations of the sac had then been made. For more certain knowledge we are indebted to Dr. Dunning's case (*Amer. Jour. of Obstet.*, July, 1867), in which the sac of pregnancy was enucleated from beneath the peritoneum and the relations of the peritoneum to the sac and the amount and character of its displacement admitted of demonstration. From the record of this case there can be but little doubt that Dr. Dunning is right in his contention that this form of pregnancy is produced in the first place

by a retro-peritoneal invasion from the broad ligament, and that the majority of tubo-ligamentary pregnancies belong to this class or subdivision.

My own case (already referred to) was as follows:—Mrs. M. A. W., aged 36, has three children, the youngest of whom is 2 years of age. The baby was suckled for sixteen or seventeen months, menstruation recurring regularly during the greater part of the time. About one year ago the periods ceased, and although some hæmorrhage discharge occasionally took place, this was irregular and scanty. The abdomen soon began to swell and the patient supposed that she was pregnant, but she has never clearly felt any movements of the child. On February 17, 1891, I saw her in consultation with Dr. Cook and made the following "note." The patient is very emaciated, sallow and anæmic. Her tongue is catarrhal and tremulous. Pulse 104 (weak). She is feebly apprehensive, crying out at the thought of any disturbance of position or possible pain from palpation of the abdomen. She has been confined to her bed for more than two months with rigors, occasional fever (temperature 102°), frequent vomiting and marked prostration. Examination (under anæsthesia):—The abdomen is enlarged and prominent, the enlargement being more marked upon the left side. The line of greatest girth measures 42½ inches. The enlargement is caused by a firm, well-defined swelling, dull on percussion and obscurely fluctuant to touch, which occupies about three-fourths of the superficial abdominal area. It is lateral in position, filling the whole of the left side of the abdomen below the umbilicus and extending over about two-thirds of the right half of the abdomen. The upper limit of the tumour is circular or crescentic in outline, it crosses the middle line half-way between the umbilicus and ensiform cartilage, and is continued downwards over the right half of the abdomen until lost to the right of the pubes. The tumour, so far as it can be examined, forms a regular globe and is tense or resistant

to touch, except over a limited area to the right of the umbilicus. Here, a kind of "ballottement" or rather pressure through fluid to a more solid part beneath, can be distinctly made out. *Per vaginam*, the uterus can be felt enlarged, distinct from the tumour, and pushed to the left by it. The cervix is not developed as in the pregnant uterus. The sound passes to five inches. A large rounded mass can be felt in the pouch of Douglas; this appears to be one with the abdominal tumour. Auscultation of the abdomen for any evidence of placental souffle or foetal heart-beat is negative. An alternative diagnosis is made of extra-uterine pregnancy with dead foetus or ovarian tumour.

Operation was performed on February 27, 1891. Present: Dr. Leslie Phillips, who assisted me, and Dr. Robinson, of Ohio. I opened the abdomen over the area of least resistance already referred to, feeling assured that by so doing I should avoid the placenta. On dividing the parietal peritoneum, which was free from either displacement or adhesion, the wall of the tumour became visible, dark red or almost purple in colour. The hand could be passed in front of the tumour on either side and down into the pelvis. *Behind the tumour it was stopped at the sacral promontory*, and the peritoneum appeared to be reflected from the spinal column upwards over the posterior surface of the tumour. I tapped the cyst with an ovariectomy trocar and evacuated several pints of dirty brown fluid. On opening the cyst a child was seen within it, dead and beginning to decompose. I removed it. The child was of full size and with the exception of some unnatural enlargement of the head, was otherwise well formed. It was of female sex and weighed 6½ lbs. During the removal of the child the sac, which although thick was very brittle, tore slightly in a downward direction, and I noticed that great care was necessary in dealing with it. The upper part was strictly intra-peritoneal and free from adhesions, except some to the great omentum, which were easily separated. It appeared to



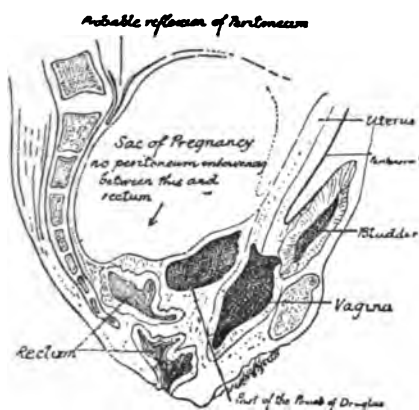
spring from the pelvis, having a very broad base, with the uterus underneath it. Its interior was very foul, and after washing this out with boracic acid solution, I finished the operation by sewing the opening in the sac to the abdominal incision. The placenta was not interfered with. The cord was left hanging out of the wound and the sac was drained. The placenta separated and came away about four weeks afterwards—this took place without any constitutional disturbance. The patient made a perfect recovery and has had a subsequent pregnancy, perfectly normal in every respect.

Advanced tubo-ligamentary pregnancy must accordingly be divided into two sub-divisions or classes :—

(1) The anterior-ligamentary, sub-peritoneo-pelvic or sub-peritoneo-abdominal pregnancy.

(2) The posterior-ligamentary or retro-peritoneal pregnancy. The first is established by *post-mortem* proof and frozen sections, and does not admit of any doubt or question. The second rests mainly on operative evidence, my own experience being exactly similar to that of Dr. Dunning, and I have very little doubt that in time this will be supplemented by the confirmatory evidence of *post-mortem* dissection. Indeed, I have considerable grounds for believing that such evidence is already to hand, and may be recognised in quite an old acquaintance, viz., the frozen section of an extra-uterine pregnancy (fig. 14), which is figured in Drs. Hart and Barbour's *Manual of Gynecology* (1883, p. 562-3). In a recent visit to Edinburgh, when looking over the preparations belonging to Drs. Hart and Barbour, I was struck by the fact that in this section no trace of peritoneum could be found between the sac of pregnancy and the sacrum or rectum, and on more closely examining it with Dr. Barbour, the condition found appeared to be consistent with the theory that the pregnancy had been tubo-ligamentary, and that on the upper side of the section or the part removed, the pregnancy had entirely

lifted the peritoneum away from the pouch of Douglas and the rectum, while in and beyond the level of the section some remains of the pouch of Douglas still existed in front of the pregnancy. The pregnancy itself was therefore strictly posterior-ligamentary or retro-peritoneal, and we have accordingly anatomical as well as surgical evidence of



*Dr. Barbour's Frozen Section*

FIG. 14.

the existence of this as a special form of pregnancy. If we turn again to fig. 4, we shall see, I think, that this must also have been an example of the posterior or retro-peritoneal form of broad ligament pregnancy. Although the bony pelvis is not present, the position of the sac as regards the uterus and rectum appears to make any other interpretation quite impossible.

There are two points worthy of further notice in the progress of a tubo-ligamentary pregnancy towards "term." The one relates to the development of the sac, the other to the position and integrity of the child and placenta.

In the earlier months space for the growing pregnancy is gained (as we have seen) almost entirely by displacement of the peritoneum, and this may be continued more or

pregnancies. The children of ligamentary pregnancies (fig. 14) and particularly those of the posterior variety may be free from any visible defect whatever.

III.—*Tubo-Uterine Pregnancy* (syn., *Interstitial Pregnancy*).

*Tubo-Uterine or Interstitial Pregnancy* is a rare condition, and there are only a few specimens which are readily available.

Strictly speaking, this pregnancy is not really extra-uterine or only becomes so by rupture into the abdomen, but the pregnancy is "ectopic" outside the uterine cavity, and it is perhaps the most dangerous of all the forms of ectopic gestation.

In most of the specimens of this disease or accident, it appears to be the tissue on one side of the fundus which is mainly invaded by the growing pregnancy. The obstruction to the passage of the impregnated ovum and its primary attachment is probably exactly at the uterine ostium of the tube. This refuses to admit the passage of the "oöperm," the ostium is pushed before the growing ovum as it increases in size, and a burrow is formed into the uterine tissue (above or to one side of the cavity of the uterus) where the pregnancy finds a temporary resting place and bed. This naturally raises the height of the uterus on the side affected, and in all the specimens I have seen the asymmetry produced by this has been very noticeable, the Fallopian tube of the non-affected side appearing to enter the uterus at a lower level midway between the (altered) fundus and cervix.

In one of the best known specimens (No. 2517<sup>90</sup> of the Guy's Hospital Museum), the uterine appendages of the opposite side have been removed, with the unfortunate result that this asymmetry is not readily recognisable. The sac of pregnancy appears to lie across the fundus from right to left, and this is decidedly the impression given of the specimen by the illustration in Mr. Bland Sutton's book (fig. 15).

In reality, however, the unaltered part of the fundus lies

altogether to one side of this sac of pregnancy, and the raw surface where the opposite appendages have been removed shows that there is quite as much distortion in this specimen as in that of the Royal College of Surgeons (4691), the other specimen in Guy's Hospital Museum (2517<sup>65</sup>), and in the specimen presented by Mr. Tait now standing in the Mason College Museum (fig. 16). All show alike that the



FIG. 15.

Fallopian tube and fundus of the side affected are very considerably raised above the level of the fundus and appendages of the opposite side, and that the tubes accordingly appear to enter the uterus at different levels.

This asymmetry may be simulated by pregnancy in one part of a double uterus, or by cornual pregnancy in a bi-corned uterus, and indeed, several supposed specimens of interstitial pregnancy have been found on close examination to be of this nature. In both of these conditions, however, there is always some angle, more or less well marked, where the double organs join, and this is of course absent in a tubo-uterine pregnancy.

A tubo-uterine pregnancy may continue to grow for several weeks, to the end of the fourth month or even longer, between uterine peritoneum on the one hand and uterine mucous membrane on the other. Sooner or later rupture takes place, either downward into the cavity of the uterus, or upward into the abdomen. The former method of rupture is a highly probable occurrence, and if it occurred would presumably be followed by spontaneous healing of the wounded tissue and normal delivery at term, but in spite of the slenderness of the bridge of tissue usually exist-

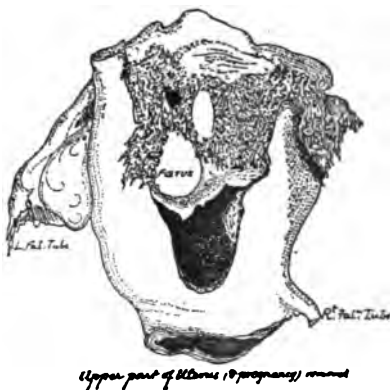


FIG. 16.

ing between the sac of the pregnancy and the cavity of the uterus, we have no positive demonstration that this has ever taken place alone. The only rupture that is known to occur is rupture into the abdomen (or into the abdomen and uterus simultaneously) and the result of this is always appalling. Diffuse hæmorrhage, worse (if possible) than that which takes place with early rupture of the tube, is the main feature of the pregnancy, and hitherto this has always proved fatal in a very few hours.

The only case approaching, or possibly belonging to, this class, which I have met with in the living subject, is the thirty-second of my series.

M. E. T., aged 27, has been married seven years. She has three children, the youngest of whom is 19 months old. She was "regular" until May 6, 1896, and since this date (until September 10) has had almost constant discharge of brownish blood. During the latter part of this time she suffered with abdominal pain and tenderness. Early in September this notably increased, and the severity of the pain necessitated her confinement to bed.

On September 8 I saw her and found the abdomen distended and acutely tender. A fixed hard tumour was felt on the left side, having a crescentic outline and occupying the whole of the left inguinal region. On vaginal examination the mass was felt to be one with the uterus, but on passage of the sound no increase was found in the length of the uterine cavity. The patient stated that the swelling was rapidly increasing in size and the lump in the abdomen had only been noticed for a few days. The patient's lips were pale, and her pulse was rather quick and feeble. A diagnosis was made of left tubal pregnancy with hæmatocele, and operation was done on September 10, 1896. On opening the abdomen a large sac was exposed formed by the expanded left cornu of the uterus, the left tube, and the left ovary, and containing placental remains. This was adherent to omentum and intestine, the union with the latter being so intimate that separation had to be made by incision. When the sac was fully freed, opened, and cleaned, it was seen that the uterine part of it had apparently invaded the uterine tissue of the cornu, and this, together with the base of the sac and the left broad ligament, was ligatured off from the rest of the uterus in four sections, leaving a long oblique wound on the left side of the fundus. The hæmorrhage was then controlled and the abdomen was closed, a drain being left in the pelvis. The patient made a good recovery.

On examination of the specimen removed it appears, I think, as if the pregnancy had been originally purely tubal, and (possibly) a pregnancy of the outer part of the tube, that it had become firmly adherent to the uterus and ovary,

and had quite secondarily invaded the side of the uterus in process of growth.

If so, it is a special form of tubo-uterine pregnancy, which at present is unrecognised, and certainly demands our attention. A specimen recently shown me by Dr. Cullingworth, and already referred to in my first lecture, appears to me (at all events so far as I have been able to examine it) to be essentially of the same nature as regards the invasion of the uterus.

This specimen (fig. 17) is one in which a tubal (or tubo-uterine) pregnancy has been complicated with myoma of the uterus. The foetus is contained in a curious diverticulum of the tube, while the placenta appears to have invaded the substance of the uterus. The upper part of the uterus (containing both pregnancy and myomata) was removed by hysterectomy and the following is a rough sketch of the parts removed. In this case there had been no intra-



FIG. 17.

peritoneal bleeding at the time of operation. Whether Dr. Cullingworth would agree with me or not I am unable to say, but it appears to me that this is (like my own) a tubal pregnancy which has secondarily invaded the uterus.

In some of the older statistics of extra-uterine pregnancy cases of "interstitial" pregnancy figure largely, and in far

higher proportion than in any statistics obtained from later experience. Thus, in Parry's 500 cases 31 are stated to have been "interstitial," while in Hennig's list of the same date (1876) in 150 cases 42 are reckoned as interstitial. These numbers must almost necessarily be largely mistaken, since any recent specimen is only of rare occurrence, and it is highly probable that some tubo-ligamentary and cornual pregnancies have been included by mistake. When a specimen is difficult to place, the position of the round ligament with regard to the pregnancy is sometimes of service in deciding its true character. This should be on the uterine side of a tubal or tubo-ligamentary pregnancy, while it should be on the other side or in the anterior wall of an interstitial or cornual pregnancy. The position of the round ligament, as a guide to the differentiation of cornual pregnancy, was first pointed out by Virchow, afterwards utilised by Professor Turner of Edinburgh, and has proved of very great value. It is not, however, an infallible guide. I have quite lately seen an intra-ligamentary tumour in which a large mass of the tumour was bulging between the round ligament and uterus. The normal relations had been so altered by the growth of the tumour that what should have been the uterine end of the round ligament was lost on the surface of the tumour, and no direct connection could be traced between this and the uterus. Yet the latter was intact, and the tumour was removed without any injury to the uterus. This occurred in the hospital practice of my colleague, Mr. Jordan (February, 1898).



NOTES OF TWENTY-FIVE CONSECUTIVE SUCCESSFUL  
ABDOMINAL SECTIONS.

By E. TENISON COLLINS, M.R.C.S.

THE following cases represent the whole of my abdominal sections during the past eighteen months ; (possibly as the result of improved technique) they were uniformly successful, and compare favourably with my preceding twenty-five, in which I had three deaths. For the most part these cases have been operated upon in private houses, but the last twelve have been done in my private nursing home. Stimulated by a visit to the President's Surgical Home, I have fitted up in mine an operating theatre, in the establishment of which I have to acknowledge the kindness of the President for his advice, and for the assistance derived from his communication on "Asepsis and Antisepsis in Gynæcology," contained in last year's volume of the *Transactions*. The angles of this room are all rounded ; the entire surface, after thorough preparation, is painted with white French lacquer (M. Flicoteaux, of Paris) ; this gives a beautifully smooth hard shining surface, which can be scrubbed. In addition to the usual tables there is a shelf for sponge bottles, &c., an air-tight and dust-proof instrument case, a small dust-proof case for ligatures contained in Barker's tubes held upright by bicycle spring clips, a condensing stove which requires no chimney, and a cupboard in which is kept operating suits, blankets, waterproofs, &c., used in the theatre. The waterproofs are "Batiste," a thin material like jaconette,

but which can be boiled. On the floor of this cupboard an Alformant lamp is placed, and its contents submitted to formalin fumes before operation. Off the theatre is a smaller room fitted with Pasteur-Chamberland filter, washing basin, copper urns for water, instrument sterilizer, and hot-air sterilizer; and by means of a glass door the heat produced by the Bunsens is kept out of the operating room. There is no communication with the drains, the water from the basin running into an enamel bucket below. Over the basin is a glass bottle containing liquid soap, which is liberated by a spring. The only water supply is through the filter, which runs so slowly that the nurses are necessarily compelled to draw water for any purpose from the urns. Of these there are three, each containing three gallons of filtered water boiled for half an hour. The sterilization is so arranged that one urn is cold, the second warm, and the third boiling during an operation. For want of a supply of cold sterilized water I have lately seen the most careful aseptic precautions rendered useless by reducing the boiling water in instruments, trays, and irrigators to a suitable temperature with cold water drawn direct from the tap.

*Preparation for Operation.*—The blunt instruments are all boiled in soda solution and lifted into glass trays containing boiled water, the sharp instruments being merely dipped in boiling soda solution. Everything which comes into contact with the wound, such as boric acid powder, gauze dressings, and bandages, are sterilized by dry heat to 350° F., and only taken from the sterilizer when they are to be used. The abdomen is previously cleansed by the nurse, covered with a sterilized towel wrung out in 1 in 40 carbolic, or the vagina irrigated with perchloride of mercury 1 in 2,000. At the time of operation I thoroughly scrub the exposed surface with soap and water and cleanse the vagina with iodine water. For the hands of myself, assistant, and nurses, I rely upon a good scrubbing with soap and hot water, a separate sterilized brush being pro-

vided for the patient, and every one engaged in the operation. I have returned to the use of sponges, as gauze mops are not so absorbent, and (when wet) fold into such small compass that they are apt to be lost in the abdomen. For ligatures I only use silk and silkworm gut, sterilized by boiling and kept in 1 in 20 carbolic. Catgut I have not used for some time, being dissatisfied with its preparation, but I intend preparing some by a method explained to me recently by Dr. Theodore Landau, of Berlin, and trying it. It is my usual custom to have as my chief assistant my matron, Miss Hill, who has assisted in 19 out of the 25 cases, and who is imbued with an aseptic conscience; to her assiduous after attention I owe a successful issue in several cases.

From the above it will be seen that with the exception of the carbolic cloth and carbolised water for ligatures and cleansing sponges I depend rather upon aseptic than antiseptic precautions, and am in this respect a disciple of my former master, Mr. Lawson Tait, who never used any antiseptic, and of Dr. Bantock, who never tires of promulgating the doctrine of "asepsis," or, as he prefers to call it, "cleanliness." Indeed, in many ways I am inclined to think we are infected with the *bacillus imitationis*, and do many things rather from routine than thought. I am not persuaded that the detailed methods of preparing the hands as adopted by American and German surgeons are necessary, unless one has to dabble in septic matter, and then the sterilization should commence directly after the operation is completed, and be repeated every twelve hours for two days. Dr. Welch has demonstrated that the staphylococcus epidermidis albus lies so deep in the skin and hair follicles that no chemical disinfection of the skin can destroy it; therefore I believe that a clean man's hands are surgically, if not bacteriologically, sterilized by scrubbing.

*After Operation.*—The instruments are scrubbed in nearly boiling soda solution, placed in the hot-air sterilizer till dry, then put away in the instrument cabinet. The scrub-



To illustrate Mr. E. TENISON COLLINS' Paper, "Notes of Twenty-five Consecutive Successful Abdominal Sections."

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2

bing brushes are all boiled and put into glass boxes containing 1 in 20 carbolic lotion. The sponges are thoroughly washed in hot soda solution, rinsed in ammonia, and then in hot water; left in 1 in 20 carbolic for twelve hours, dried in the sterilizer, and put away into glass jars—there being separate sponges for abdominal, perineal, and vaginal work. Any sponge contaminated with pus is burnt.

*After Treatment.*—I never use morphia or ice, and peptonised milk only after the bowels have acted. I invariably give a mild aperient on the second evening, and commence solid food on the morning of the third day.

The numbers of the following notes refer to the cases in the list at the end of this paper :—

(1) *Appendiceal Abscess* in a child aged 13. Assisted by Dr. Skyrme. I opened the abdomen and drained the abscess cavity. The temperature, which before operation had been 104° F., dropped to 100° F. A fortnight later there was another rise of temperature and a rigor, the wound having closed. It was re-opened, about an ounce of foeculent pus liberated, the cavity packed with cyanide gauze, and allowed to heal from the bottom. The appendix was not seen or searched for either time; the child is now absolutely well and vigorous.

(2) *Carcinoma of the Fundus*, discovered after full dilatation. Vaginal hysterectomy was performed, and the specimen shown before the Society on October 14, 1897. The patient is now most active and vigorous, and has no signs of recurrence.

(6) *Cancer of Cervical Canal.*—Vaginal hysterectomy and specimen shown at meeting of the Society on October 14, 1897. The patient is perfectly well at the present time, and has recovered from her anæmic condition.

(8 and 23) *Ovarian Cyst. Second Operation.*—These numbers refer to the same case. After recovery from the first operation she complained of constant pain in the abdomen, chronic dyspepsia and constipation, for which I sent her to Dr. A. W. Sheen. He suggested that her

trouble was probably due to intestinal adhesion to the pedicle, which was a large fleshy one. Personally I did not think this, but at the patient's request I reopened the abdomen ten months after the first operation and found nothing. Dr. Sheen (being present) also explored the peritoneal cavity. She made an equally good recovery from the second laparotomy.

(9 and 10) *Chronic Salpingo-Oophoritis*.—In these cases I had the invaluable assistance of Mr. Lawson Tait, who was staying with me.

(11) *Tubercular Peritonitis with Obstruction*.—Child, aged 14. On opening the abdomen, assisted by Dr. Duncan Cooper, the omentum and intestines were found covered with disseminated tubercular nodules with general adhesions, but no encysted fluid. The adhesions were carefully separated, and the acute pain, vomiting and threatened obstruction at once relieved. A small faecal fistula followed but subsequently closed. The patient is still living, and on the whole better than she was a year ago.

(12) *Edematous Myoma. Panhysterectomy*.—History given and specimen shown before the Society on November 11, 1897. The patient is now perfectly well and rides a bicycle.

(14) *Myomectomy. Total Rupture of Abdominal Wound*.—This patient had a pediculated myoma about the size of a cocoa nut attached to the fundus, two small myomata on anterior wall, and one the size of a Tangerine orange in the right broad ligament. The operation was performed for constant pain and bladder symptoms. Assisted by Dr. W. Taylor, the pediculated growth was removed and the edges of the stump brought together by a continuous suture. The appendages were removed to arrest the growth of the other tumours. For several days there was continuous bilious vomiting and flatulence, although the bowels were acting. On the eighth day I removed the abdominal sutures. In the afternoon the patient, contrary to instruction and warning, raised herself in bed in the presence of her husband and felt

something give way. She did not mention it to the nurse nor to me when I saw her about 10 p.m. She was very comfortable, pulse 82, temperature normal, and she had enjoyed her supper. At 11 p.m. I was summoned, because the nurse had noticed some blood on the lower folds of the bandage. On exposing the abdomen I found the wound opened in its full length, and intestine and omentum protruding. These I washed with warm boric acid lotion, gently returned them, brought the edges together with strapping and sent for Dr. A. Taylor in the absence of his father. He administered chloroform, and the wound was re-sutured. Her temperature the next morning was 98·8° F., and pulse 92; she progressed without the slightest interruption and went out in a month. She was very stout, and the incessant vomiting had, no doubt, weakened the primary union. I have examined her recently and found the broad ligament growth considerably diminished in size.

(18) *Panhysterectomy for Myoma.*—The myomatous condition was discovered by Dr. Bassett, who was called to see her for retention of urine about eighteen months ago. He found the pelvis occupied by a large myoma. Growth continued upwards and downwards. In September, 1897, a sloughing mass protruded from the vulva; this was removed and was estimated at 3 lbs. in weight. For some time after she had a septic temperature. On February 14, 1898, a similar condition recurred and I removed about 2 lbs., getting quite clear of the gangrenous portion. The vagina was thoroughly irrigated with double cyanide solution 1 in 2,000, and packed with dry iodoform gauze. She had no subsequent rise of temperature. The abdominal portion of the tumour filled the abdomen up to the sternum, and only in the flanks and epigastrium could any resonant area be found.

She was admitted into my Home on March 18, 1898. She was extremely emaciated, had a trace of albumen in her urine, a very offensive purulent vaginal discharge, and slight elevation of temperature. Projecting from the thinned-out



cervix was the stump resulting from the previous partial removal. A sound in the bladder passed up the left side of tumour, almost reaching to the level of the umbilicus. Pan-hysterectomy was performed on March 20. The vagina being thoroughly irrigated and cleansed as much as possible, a pack of sterilised gauze was placed around the vaginal surface of the cervix and over protruding mass, to absorb any further discharge.

The patient being in partial Trendelenburg position, the abdomen was opened from one inch below ensiform cartilage to midway between umbilicus and pubes. The upper part of the tumour was delivered and the upper borders of the broad ligaments tied off and divided outside the appendages. A second ligature was placed on the next portion of the broad ligaments and divided. The vaginal gauze was withdrawn and a long Galabin's steel dilator introduced by Dr. Bassett. A semi-circular incision was made over the front of the tumour and the bladder gradually separated off and pushed down. The vaginal instrument was felt, cut down upon and anterior fornix opened. Considerable hæmorrhage from large venous sinuses in left broad ligament was arrested by ligature. The tumour was pulled well over the pubes and the posterior vaginal fornix opened; the bases of the broad ligaments opened out, the uterine arteries picked up with an aneurism needle, carrying a ligature and firmly tied, both ureters being in view. The remaining parts of the broad ligaments being divided, the tumour was lifted out of the pelvis. To counteract shock the abdomen was rapidly flushed with hot water, which escaped through a Ferguson's speculum in the vagina. The vaginal roof was closed by two sutures in middle line and a long gauze tampon drawn through the open sides of vagina from below and left *in situ*. The patient was returned to bed, the operation having lasted two hours and twenty minutes. There was considerable shock, but on the third day the bowels had acted. She was taking nourishment well; pulse 80 and temperature 99° F.



To illustrate Mr. E. TENISON COLLINS' Paper,  
"Notes of Twenty-five Consecutive Successful Abdominal  
Sections."



On examination the tumour was found to be an interstitial myoma with intra-uterine evolution, invading the right side and fundus of the uterus. The uterine cavity is to the left of the mass, and measured four inches. It was evident that the thinned-out cervix had been divided and partly left behind, and that the sound must have been inside the cervix between it and projecting growth. Taking into account the position of the patient, the drawn-up tumour, the large mass in vagina, and a retracted thin cervix, the oversight was a very easy one.

The tumour measured  $12\frac{1}{2}$  inches in length, 7 inches in diameter at the fundus,  $4\frac{1}{2}$  inches in diameter at its lower end, and  $22\frac{1}{2}$  inches in its greatest circumference. A week after removal it weighed 14 lbs., and had shrunk considerably.

The subsequent recovery was slow but sure. A week after operation she had dribbling of urine from the vagina, but whether from a bladder or ureteral fistula I cannot say. It, however, soon ceased, and she left my Home on April 7, or eighteen days after operation. I have seen her recently, she has put on flesh, looks remarkably well, and is able to walk two to three miles without fatigue.

In the photograph the figures represent—(1) The right ovary and tube; (2) the left ovary and tube; (3) the round ligaments; (4) the cut edge of cervix; (5) a stem in uterine cavity; (6) the surface of bladder attachment.

(19) *Salpingo-Oophorectomy, Internal Hæmorrhage, Abdomen Re-opened.*—Patient very stout, with a deep capacious pelvis; appendages adherent to small intestine and round Douglas' pouch. Considerable difficulty was experienced in setting them free, and the ligature of the right pedicle cut through on tying. A clamp was therefore placed on cornu of uterus and another on broad ligament. The oozing from adherent surfaces was checked by hot sponges and ligatures, and a drainage tube inserted. Twelve hours after operation I was sent for and found patient very anæmic, pulse 130, and respirations 26. Ether was at

once administered by Dr. Skyrme and the abdomen reopened. About a pint and a half of blood clot was turned out and several bleeding points discovered low down in the pelvis and on back of uterus. These were picked up in long pressure forceps, and, no further hæmorrhage being noticed, the abdomen was flushed with hot water, the drainage tube re-inserted, and wound closed—loose sutures being left *in situ* to tie after removal of the clamps, which was done in thirty-six hours. The patient made an ordinary recovery and left the Home in sixteen days.

(21) *Large Ovarian Cyst in a Girl of 16.*—The patient had been tapped several times. I saw her on April 21, 1898. The abdomen was enormously distended, dull on percussion everywhere except in epigastrium, very distinct fluctuation; she was emaciated. She was admitted on May 4, and operated on the following day. The tumour was adherent to ascending colon and to coils of small intestine. It was delivered through a five-inch incision after being partly emptied, a large solid mass being in right iliac region. The growth was left-sided, and contained  $12\frac{1}{2}$  pints of fluid. There was no shock, and her convalescence was remarkably rapid.

(22) *Acute Pyo-salpinx.*—This case I saw with Dr. J. Rees, on March 25, 1898. There was no swelling to be felt externally, but *per vaginam* the left appendages were very tender and enlarged. They continued to increase in size, and on March 30 the uterus was pushed forward by a semi-solid swelling in Douglas' pouch and left fornix. I looked upon this as a hæmato-salpinx. Gentle warm irrigation and stupes were continued. On April 3 the swelling was fluctuating, there was sweating and a temperature of  $104^{\circ}$  F. but no rigor. I decided to open the tube *per vaginam*, which, with Dr. Rees' assistance, I did, and let out half a pint of coffee-coloured pus. After this the temperature gradually fell and her condition improved. On May 5 she was admitted to my Home and the abdomen opened on the 7th.

The left appendages were bound down by adhesions and to sigmoid flexure. The right were atrophied and adherent. Both were removed and she made an ordinary recovery.

(25) *Vaginal Hysterectomy.* Age 66.—With the assistance of Dr. W. Taylor this operation was performed on July 14, 1898, for the relief of hæmorrhage, and she is progressing most favourably. The main difficulty was that the uterine tissue was so friable that no grip could be obtained or traction made. I had, therefore, after opening Douglas' pouch and partially separating the bladder, to make traction on broad ligaments with clamps, and repeating this plan until the whole was removed. Five medium clamps were fixed on each side, the left tube and ovary being alone tied off. The clamps were removed in thirty-six hours. From this onward she passed her own urine, and the ligature came away on the ninth day. After the bladder was separated off, the ureters were pushed well away to the pelvic wall, and the broad ligaments clamped as close to the pelvis as possible. No enlarged glands could be felt. The operation lasted two hours.

*Anæsthetics.*—In all these cases ether has been used, by Mr. Morland, 10 times ; Dr. A. W. Sheen, 10 ; Dr. Skyrme, 5 ; Dr. Mitchell Stevens, once ; Dr. Shepherd, once ; Dr. Arthur Taylor (CHCl<sub>3</sub>, No. 14), once.

No.	Condition, age and residence.	Medical Attendant.	Disease.	Operation.	Date.
*1	S. 13. Cardiff	Dr. Skyrme	Appendicitis ..	Drainage of Abscess	Feb. 1, 1897
*2	W. 56. Cardiff	Dr. Downing	Carcinoma Fundi ..	Vaginal Hysterectomy ..	Feb. 16, 1897
3	M. 32. Barry	Dr. Powell: Barry	Chronic Salpingo-Oophoritis	Removal of Appendages	May 11, 1897
4	M. 23. Cardiff	Dr. Skyrme	Chronic Salpingo-Oophoritis	Removal of Appendages	May 19, 1897
*5	M. 30. Cardiff	Dr. Edgar Jones	Fibro-myomata ..	Removal of Appendages	May 23, 1897
*6	M. 46. Newport	Dr. E. Williams: Newport	Cancer of Cervix	Vaginal Hysterectomy ..	June 16, 1897
7	S. 28. Bristol	E. T. C. ..	Parovarian Cyst	Ovariectomy ..	June 16, 1897
*8	S. 50. Cardiff	Dr. Pittard	Multilocular Ovarian Cyst ..	Ovariectomy ..	Aug. 14, 1897
*9	M. 39. Porthcawl ..	Dr. Powell: Barry	Chronic Salpingo-Oophoritis	Removal of Appendages	Sept. 2, 1897
*10	M. 34. Pontypridd	Dr. Lyttle: Pontypridd	Chronic Salpingo-Oophoritis	Removal of Appendages	Sept. 5, 1897
*11	S. 14. Bridgend	Dr. Duncan Cooper: Bridgend	Tubercular Peritonitis ..	Laparotomy ..	Sept. 18, 1897
*12	M. 34. Cardiff	Dr. J. W. D. Morris	CEdematous Myoma ..	Pan-Hysterectomy ..	Nov. 7, 1897
13	M. 37. Cardiff	Dr. Prichard	Chronic Salpingo-Oophoritis	Removal of Appendages	Dec. 12, 1897
*14	M. 40. Ton-y-pandy	Dr. W. Taylor	Fibro-Myomata ..	Myomectomy and removal of Appendages	Jan. 7, 1898
15	S. 39. Cardiff	Dr. Edgar Jones	Fibro-Myomata ..	Removal of Appendages	Jan. 23, 1898
16	M. 36. London	Dr. Powell: Clapton, N. E.	Chronic Salpingo-Oophoritis	Removal of Appendages	Feb. 13, 1898
17	S. 16. Cardiff	Dr. A. E. Taylor	Recurrent Appendicitis ..	Appendicectomy ..	Mar. 6, 1898
*18	S. 43. Newport	Dr. Bassett: Newport ..	Interstitial Myoma ..	Pan-Hysterectomy ..	Mar. 20, 1898
*19	M. 34. Cardiff	Dr. Neish	Chronic Salpingo-Oophoritis	Removal of Appendages	Mar. 24, 1898
20	M. 40. Llandaff	Dr. Arthur	Cancer of Cervix ..	Vaginal Hysterectomy ..	April 16, 1898
*21	S. 16. Abergavenny	Dr. Foley: Abergavenny	Ovarian Cyst ..	Ovariectomy ..	May 5, 1898
*22	M. 40. Penarth	Dr. Rees: Penarth	Pyo-Salpinx ..	Removal of Appendages	May 7, 1898
*23	S. 50. Cardiff	Dr. Pittard	(After Ovariectomy. No. 8) ..	Laparotomy ..	June 5, 1898
24	S. 28. Cardiff	Dr. Shepherd	Prolapsed adherent tube and ovary	Removal ..	July 5, 1898
*25	M. 66. Cardiff	Dr. W. Taylor	Cancer of Cervix ..	Vaginal Hysterectomy ..	July 14, 1898

\* Referred to in the Notes.

## REVIEWS.

PHYSICIAN AND PHILOSOPHER. "RELIGIO MEDICI" and other essays ; a new edition. By Dr. LLOYD ROBERTS.

Among books, there is a certain class, our classics, with which circulating or even public libraries help us little, and which to be of service to the reader must be at hand on his own bookshelves. The accumulation of even a moderate library requires not only time and money, but space, and we are therefore much indebted to Dr. Lloyd Roberts for bringing together into a neat and handy volume some of the more important works of such a writer as Sir Thomas Browne.

The volume contains not only the famous essay, "Religio Medici," at once the firstfruits of his pen, and the most characteristic of his writings, but his "Hydriotaphia," the product of maturer years and perhaps his masterpiece, and other essays of lesser note. The editor has also added a biographical preface and criticism of the author's works.

De Quincey, Carlyle, and other masters of style have paid tribute to Sir Thomas Browne's genius as a writer, but to the student of science he presents another and equally interesting aspect. Educated at Winchester and Oxford, he received his medical training at Montpellier, and afterwards at the University of Padua, the school which produced his greater contemporary Hervey, under teachers who had freed themselves from the trammels of empiricism, and who taught physic as a science, on the basis of observation. Although, however, he might have attained a considerable local reputation, he was, unlike Hervey, from his very nature, incapable of becoming an investigator, and the



keynote of his philosophy, so well illustrated by the following sentence from the "*Religio Medici*," indicates that in this direction the spirit of his teachers had influenced him but little :—"And this, I think, no vulgar part of faith, to believe a thing not only above, but contrary to reason, and against the arguments of our proper senses."

On the other hand, however, it is probable that the training which set Hervey on the road to his classical discoveries was not lost on Sir Thomas Browne; to it, even more than to his study of contemporary philosophy, may be attributed the freedom from prejudice for which, in a time of bitter political and religious controversy, his writings are remarkable. In this they may, perhaps, have done something towards preparing a way for the great philosophers of the succeeding generation.

The book is well printed and tastefully bound; in this the publishers deserve much credit.

M. W. T.

DE L'INCONTINENCE D'URINE, VRAIE ET ESSENTIELLE, CHEZ LA FEMME ET DE SES DIVERS TRAITEMENTS (Incontinence of Urine, true and essential, in Women and its Various Treatment). Par le Dr. EUGENE GUIGUES, 1897; pp. 74, 8vo. Price fr. 2.50.

This volume of 74 pages treats of true incontinence of urine, excluding from consideration those cases resulting from lesions of nervous centres or other symptomatic cases. The author defines true incontinence as an involuntary and unconscious emission of urine with total abolition of the sensation of want of micturition, and due to mechanical and anatomical lesions either muscular or from malformation of the tissues which constitute the natural barriers to the passive flow of urine.

Then follows a history of the development of the treatment of incontinence of urine in women, together with the anatomy and physiology of the bladder and urethra.

The author enumerates the causes of true incontinence as follows :—(1) Relaxation of the tissues and sphincters ; (2) Forced dilatation of the urethra and urethral incision ; (3) Pathological dilatation of the urethra ; (4) Obliteration of a vesico-vaginal fistula ; (5) Mechanical deformation of the vesical sphincter ; (6) Congenital malformation.

After considering each of these causes in particular, the author proceeds to the description of the various forms of treatment. With reference to the medical treatment by cold baths, perineal douches, various kinds of revulsives, together with the internal administration of belladonna, atropine, strychnine, chloral, the bromides, camphor, cantharides, nitrate of potash, antipyrin, *rhus aromatica*, ergot, &c., he places little reliance upon its efficacy, or at least considers its application limited to a very few cases ; but he speaks very favourably of the electrical treatment as advocated by Guyon, Jamin, and Danion in the form of faradic and galvanic currents of low intensity and short sittings.

Mention is also made of the process of Braxton Hicks and Sims, of dilating the bladder by means of injections of tepid water gradually increased, with or without electrical treatment, in cases of incontinence due to contraction of the bladder.

After making a few remarks on the palliative treatment by various appliances for the collection of urine, he passes on to the surgical treatment, whereby the common object is to reduce the size of the lumen of the urethral canal or of the vesical sphincter, and he classifies the various operations advocated for that purpose into two groups, viz. :—(1) those of Schultze, Winckel, Franck, Engstroem, and Desnos, in which the object is sought by excision of the urethro-vaginal septum ; (2) those which have recourse to elongation, incurvation, or torsion of the urethra, singly or combined, such as the processes of Pawlick, Duret, Gersuny, Pousson, Albarran, and Himmelfarb.

Of these the process of Pousson, which is a combination

of Duret and Gersuny's processes, is considered by the author as the most applicable and the most successful in the majority of cases. The operation is performed as follows :—A circular incision is made around the meatus, and the urethra is dissected out for about half an inch of its length, leaving sufficient tissue around the mucous canal to ensure its vitality. From the upper part of the circular incision a vertical incision is carried upwards in the middle line of the vestibule to the base of the clitoris. The meatus and dissected urethra are now raised to the upper part of the vertical incision, twisted or rotated in the direction of the hands of a watch  $120^{\circ}$  from the original position of the meatus, and fixed by sutures so as to make a transverse orifice. The wound below is then sutured so as to support the urethra in its new position.

The effect of the operation is threefold : (1) the urethra is bent upon itself under the arch of the pubis, flattening the canal ; (2) the longitudinal muscular fibres are converted into spiral fibres which, when contracting, act somewhat like a sphincter ; (3) the torsion and elongation of the urethra diminish the size of its lumen.

In some particular cases, however, some one or other of the processes enumerated above may be adopted with advantage.

Altogether the volume is a faithful record of the recent advances in the surgical treatment of a form of complaint which previously found no practical relief from any known method of treatment, and which, at the present time, hardly receives any notice in the most recent text-books on surgery or gynæcology.

The perusal of Dr. Guigues' work will well repay those who are interested in this form of disease. Dr. Macnaughton-Jones, in his work on "Diseases of Women," refers to an operation performed by Dr. Alexander of Liverpool, and brought before the British Gynæcological Society, April 25 1888, which consists in establishing a communication between the bladder and rectum through the vagina, and

closing the vagina. Dr. Alexander operated on three cases, in one of which (Mrs. D.), the natural orifice of the bladder was inserted into an opening made in the rectum, and then the vagina closed. In the other two cases, Mrs. K. and another patient aged 50, the base of the bladder was brought into apposition with the rectum, an artificial opening was made between the bladder and rectum, through which a vulcanite stud was inserted, and the vagina and urethra were subsequently closed. The latter method is referred to by the author of the work under consideration as having been had recourse to by Rose about the year 1875. The former method by which Mrs. D.'s case was treated is not mentioned by Dr. Guigues; but the case of Mrs. D. as described by Dr. Alexander would appear to be in all particulars suited to be dealt with by the method of Pousson or even that of Gersuny, and so likewise probably that of Mrs. K., which method not only obviates the momentous alternative of unsexing a woman, but also the serious inconvenience of the constant irritation of the rectum which is likely to result from the urine, as pointed out, with cases referred to, by Lawson Tait at the time of the discussion of Dr. Alexander's operation before the British Gynæcological Society.

The other case operated on by Dr. Alexander was unsuccessful, but could not have been treated by any other known surgical method than the one he adopted, considering the absence of the urethra in this case.

TREATISE ON THE DISEASES OF WOMEN. BY ALEXANDER J. C. SKENE, M.D., LL.D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, New York. Third edition. London: Messrs. H. K. Lewis.

It is six years only since Dr. Skene published the last edition of this work. During those years gynæcology has advanced so much that the present volume has needed a good many additions to bring it up to date, and make it the complete work we have learnt to expect from such an author. Dr. Skene has completed his work in a way that

must interest and instruct all his readers. His style is clear and easy, while his excellent illustrations materially assist to make his meaning always clear.

The type and general "get up" of this edition are in every way excellent.

In covering so large a field and in appealing to students as well as general practitioners, a considerable amount of the material of necessity contains nothing very new, but we have noted a few points on which Dr. Skene's views are of special interest, and in which his methods are novel.

Dr. Skene regards antelexions of the uterus as a *deformity*, not a displacement, which may be either congenital or acquired. For their treatment he puts aside pessaries, regards dilatation as only of temporary benefit, and advises clipping out a V-shaped piece in each lateral edge of the os, extending upwards from an eighth to a fourth of an inch. A few of the circular fibres should be divided.

He considers the most frequent and important lesion that occurs in the connection of the uterus and vagina is the imperfect invagination of the anterior wall of the cervix; and for this Dr. Skene puts the anterior wall of the vagina on the stretch at the point where it is reflected on the cervix and divides it transversely with scissors for three-fourths of an inch deep. The vaginal wall is dissected up so that when the incised portion is put upon the stretch the sides will come together, the transverse incision becoming a longitudinal one. The wound is sutured in that position.

Dr. Dudley's operation does not find much favour with the author, though held to be superior to Sim's. Dr. Skene prefers incision followed by dilatation, easy and gradual or forcible.

A long and interesting account is given of the pathology of injuries of the pelvic floor. Ordinary laceration in the median line down to, but not through, the sphincter, are recommended for immediate operation, but Dr. Skene thinks that unless the sutures are deeply and skilfully placed no advantage is gained over the methods of nature, and no

doubt many will agree with him. He adopts a slight modification of Emmett's operation for perineal lacerations, whether extending through the sphincter or not, but we are surprised to find no allusion to Lawson Tait's important method of dealing with this condition.

A modification of the usual methods of treating fistula *in ano* is described and recommended. After dilating the sphincter and laying open the fistulous tract, the scar tissue and mucous membrane are carefully vivified sufficiently deeply to expose the muscle at the edges of the wound. Fine silk sutures are then introduced into the mucous membrane of the rectum, the lower ones being made to include the sphincter ani muscle. Deep sutures are next passed from the outside upward in the same manner as in the operation for restoring the perinæum.

Dr. Skene's experience in coccydina leads him to conclude that removal of the coccyx is the only method which is likely to prove satisfactory.

Inflammatory affections of the uterus are fully dealt with and illustrated by a number of interesting cases. We note that Dr. Skene still regards with favour his instillation tube or pipette for introducing fluid medicaments into the uterus. He contends that such applications need only be made at weekly intervals.

Under the term sclerosis of the uterus are included chronic interstitial metritis, hypertrophy, chronic inflammatory hypertrophy, and areolar hyperplasia.

Lacerations of the cervix are treated by Emmett's method, which is held in esteem because the sub-involution so often associated with this condition is generally improved thereby.

In a very clear description of flexions and versions of the uterus Dr. Skene speaks well of the Hodge and some other pessaries, but is emphatic on the necessity of their being very carefully adapted to each case. He is not fond of stem pessaries, as already indicated. Of Alexander's operation he says: "Most cases are curable by the means

which I have described, and the cases that are incurable by such means are also incurable by Alexander's operation." When the version is complicated by adhesions he performs a hysterorrhaphy, but he designedly inserts the sutures attaching the uterus to the abdominal wall in such a way that they will yield after a few weeks and leave the uterus free in the new position. He appears to be satisfied with his results. A full and up-to-date account of hysterectomy, abdominal and vaginal, is given; for the former Kelly's procedure is followed, while a slight modification of Landau's is adopted for the latter.

In discussing the question of ligation in vaginal hysterectomy Dr. Skene describes his own method of applying electric hæmostatic forceps. The full account is well worth careful perusal, and he is himself much impressed with their convenience and suitableness. Perhaps this chapter is the most noteworthy novelty in the book.

The subject of gynæcology is very fully elaborated in some 658 pages, while another 300 pages are devoted to diseases of the urinary organs. This section of Dr. Skene's volume has helped to increase the practical value of his former edition, and it has not been overlooked now. We know no manual on gynæcology that contains so useful and complete an account of this branch of the subject; and it will continue to be studied with much practical advantage by all medical readers.

SAJOUS'S ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. Vol. I. F. S. Davis.

Dr. Sajous's Annual of the Universal Medical Sciences was familiar to all medical readers. He himself, however, thought there was scope for further development; he has therefore modified his publication, and this is the first volume of the new departure. It is handsomely got up, and is very full of accurate and most valuable information.

This new publication has the alphabetical arrangement, and comprises a concise statement of the generally accepted

methods in vogue, in one style of type, while in a different type, on the same page, can be found the opinions of well-known authorities bearing upon whatever may be debatable regarding the subject in hand. This alphabetical arrangement will consider all the practical subjects of medicine and surgery and the clinical application of therapeutics. It will appear at the approximate rate of one volume each six months, the whole alphabet being thus covered in three years, and during this time a monthly supplement (*The Monthly Cyclopædia*), alphabetical from A to Z, will be brought out ; so that a doctor can have a complete synopsis of the latest journal literature to reinforce his system of reference.

Dr. Sajous holds that a number of busy practitioners not only feel the financial expenditure for medical works severely, but find that the possession of a large reference library only entails a corresponding amount of labour in using.

His aim is to give a satisfactory statement of what may be safely relied upon as the best general method of treatment in any given case, and to combine with this a means of practically utilising the discussion by the leading medical authorities of the world, which may in any degree modify present established methods.

We are satisfied that Dr. Sajous has made his claim good so far, and shall look with interest and assurance to the future numbers of this series.



## SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

### GYNÆCOLOGICAL.

COMPARATIVE RESEARCHES ON THE UTERINE AND CHORIONIC EPITHELIUM. By L. FRAENKEL (Breslau). *Archiv. für Gynäkologie*, Bd. lv., H. 2, pp. 269-315, viii. pl.

This work was undertaken to decide the contested question whether the external layer of the chorionic epithelium originates from the maternal uterine epithelium, as Marchand and others declare; the pathology of the malignant tumours of the seat of the placenta showing that, while a few of these new growths may have been simple uterine sarcoma, endothelioma or simple (syncytial) uterine carcinoma after pregnancy, the majority have originated in the external investment of the chorionic villi.

In human beings the exact origin of this external layer of chorionic epithelium is not determinable, but in none of the recent placenta of the animals examined (pig, cow, sheep, dog, cat, rabbit, squirrel, guinea-pig, rat, mouse or mole) had the chorion or its villi an epithelium of maternal origin, nor did the maternal epithelium exhibit any inclination to exuberant growth. The higher the organisation of the placenta, the closer the connection between its maternal and foetal elements, the more complete is the disappearance of the maternal epithelium. In rodents and insectivora whose placenta of those examined most closely (of the animals examined) resembles the human organ, the uterine epithelium completely vanishes at the margin of the placenta, never being in contact with the chorionic epithelium at all. Chorionic epithelium was never absent in any case; moreover it proliferated in many cases to a considerable extent into the maternal connective tissue and the more freely the higher the animal in the scale. There was not any well marked and regular division of the epithelium of the chorion or its villi into two layers; when the allantois (the chorionic stroma) was covered with more than one layer it was evidently merely a luxuriant growth of chorionic epithelium. Histologically the chorionic epithelium in animals resembled the so-called external layer in man. Cells like those of Langhan's layer were met

with, but could be referred with certainty to the general chorionic epithelium. During pregnancy tissues of most different origin are inclined to form syncytium and that term must be abandoned as referring to any particular tissue. It is therefore by no means proved that the so-called external chorionic epithelium in man is of maternal origin, but comparative researches show that it is most improbable that it should be so.

The malignant tumours of the seat of the placenta Fraenkel concludes should be, apart from the question of the origin of the external chorionic epithelium, considered as he described them in 1894, as uterine carcinoma originating from the epithelium of the chorionic villi.

Hofbauer (from Schawba's Klinik, Vienna) describes a primary carcinoma of the tube, independent of a coexisting carcinoma of the cervix (pp. 316-324, i. pl.).

**RESEARCHES ON THE DEVELOPMENT AND MORPHOLOGY OF THE MUSCULAR TISSUE OF THE HUMAN UTERUS.** By WERTH (Kiel), and GRUDEW (St. Petersburg). *Ibid.*, pp. 316-413, vii. plates.

The foundation of the muscular tissue of the uterus in man and other mammalia lies, according to Sobotta, in a circular layer of fibres developed in close connection with the subsequent mucosa from the mesodermal elements of the wall of Muller's ducts. In the lower mammalia an external longitudinal layer is found beneath the serosa, but this layer is rudimentary in man and the higher apes. Roesger, whose researches were limited to the foetal uterus, did not recognise any typically independent circular layer of muscle. In his opinion the uterine muscular tissue was primarily developed in close connection and dependence upon the intramural anastomoses of the blood vessels.

The conclusions of Werth and Grusdew are based on the microscopic study of series of sections of a very large number of human uteri in various stages of existence, from the end of the third month *in utero* to that of complete development. They confirm Sobotta's views, completing some of his discoveries and giving a juster explanation to others. They have found that an inner circular layer of muscular fibres, the archimyometrium, first appears, and from surrounding connective tissue an external layer, the paramyometrium, is afterwards developed; it contains both longitudinal and oblique fibres; both directions, which in contrast to the circular direction of the primary layer and the changing direction of the genital canal during development, may be considered longitudinal. Between archi- and parametrium—round the semi-circular principal vessels of the uterine wall, and between the two in time a layer of muscle arises which in

general character resembles the primordial muscle, but has not the same typical fascicular arrangement. The human uterus thus approaches more closely to the two-horned mammalian type than Sobotta represents—the middle layer carrying the blood vessels becoming in woman entirely muscular.

In regard to the arrangement of the blood vessels of the uterine mucous membrane little has been said in later authors, but a quotation of some length is made from Farre.<sup>1</sup>

The article concludes with approving remarks on the "Hélie-Chenantaïs Atlas," and some consideration of the views of Hoffmann, Pilliet and Bayer. It is illustrated by 9 plates, and explaining text.

THE QUESTION OF SYNCYTIIUM AND DECIDUOMA MALIGNUM.  
By J. PFANNENSTIEL. *Centralblatt f. Gynäk.*, xxiii., 1898.

Veit, in an address to the Berlin Obstetrical Society, described deciduoma malignum as a submucous uterine sarcoma, existing before conception, of maternal, and not of foetal origin. This Pfannenstiël denies; he thinks deciduoma malignum, it is true, as a tumour of maternal origin, but as an endothelioma, and holds the syncytium which invests the chorionic villi to be the endothelium of the blood capillaries of the tumour. The syncytium, according to this view, and contrary to that of Ruge and others, is not a foetal ectoderm, but a maternal endothelium. Pfannenstiël, moreover, believes that deciduoma commences during, and not previous to, pregnancy, and compares the morbid process with that of a sarcoma of pronounced malignant character.

J. J. M.

CHORIO-EPITHELIOMA, THE SO-CALLED DECIDUOMA MALIGNUM.  
By H. L. WILLIAMS, M.D., Assistant Pathologist and Bacteriologist to the Philadelphia Polyclinic.

After referring to the various contributions to our knowledge of this disease, the author dwells upon its pathological features. The generally accepted theory now is that the cells which were supposed to be decidual are in reality syncytial (maternal epithelium) or foetal ectodermic (Langhan's) cells, which have undergone malignant proliferation.

In the majority of cases the malignantly proliferated cells so closely resemble the syncytium in every particular that it is impossible to deny their identity. The author prefers the name chorio-epithelioma, since the tumour has its origin in the epithelial

<sup>1</sup> "Cyclopædia of Anatomy and Physiology," vol. v., p. 637.

covering of the chorion villi and therefore is allied to the carcinomata rather than the sarcomata.

The villi of the chorion, covered by their single layer of ectodermic cells (Langhan's cells), become embedded in the decidua serotina, which has upon its surface the single layer of ciliated cuboidal epithelium, with which the entire uterine cavity is lined. These cells, according to Ruge, are preserved, become firmly attached over the outer surface of the villi and constitute the layer known as the syncytium. There are thus two layers of cells between the fetal vessels of the chorion villi and the connective tissue stroma of the endometrium, which latter are the decidual cells of the serotina. It is in the syncytial covering of the chorion villi, either during pregnancy or from villous remains after labour or abortion, that these malignant neoplasms have their origin. All the cases recorded have developed either during pregnancy or immediately after labour or abortion. Of the forty-five cases collected none have occurred in primiparæ, but each has developed before the menopause.

Forty-five per cent. of the cases have developed subsequent to hydatid mole, showing that some etiological relation exists between the two affections. Bleeding, of an intermittent and gushing character, shortly after delivery or abortion, is usually a prominent symptom. The os is frequently open. The uterus is large, soft and boggy, and usually contains a soft, tumorous mass that can be distinctly palpated. This growth is of placental consistence. The uterine wall is early invaded and becomes soft and easily perforated. Early metastasis and great malignancy are special features. The commonest seat of metastatic deposit is about the vagina. The next most common is the lung. In the majority of fatal cases death has occurred in three to six months. All the cases not operated upon have died. Operations have been reported on twenty cases, of these fourteen have remained free from symptoms. Curetted materials from within the cavity of the uterus should be examined microscopically in all cases of intermittent bleeding after labour or abortion. The greater part of the tissue is composed of a fibrous reticulum, presenting marked alveolar and cavernous structure; in the meshes are large spaces containing blood and fibrin, but no glands, blood vessels, or lymphatics. Between the blood spaces and in masses throughout the growth are bars, bands and islands of syncytial and Langhan's cells embedded in protoplasm. In the latter are vacuoles and in some cases distinct chorion villi. In the fibrous reticulum and in the homogeneous protoplasm is a small round-cell infiltration.

J. F. J.

ON THE DISTANT RESULTS OF CURETTAGE IN POST-PARTUM INFECTION, WITH TWENTY-FIVE NEW CASES SINCE 1894, ALL SUCCESSFUL. By FERRÉ, of Pau, in *L'Obstétrique*, May 15, 1898.

The more Ferré sees of puerperal infection the more he prefers curetting to intra-uterine injections, which he reserves for the slightest cases. The late results also show that curetting is more permanent in its effect, women who have been treated by intra-uterine injections only when infected showing many and varied lesions such as enlarged uterus in a state of subinvolution and still suppurating, other various forms of ameoxitis and perimetritis and even chronic pelvic suppuration. And yet all these women had been looked on as *cured*. The temperature certainly falls, but there is no true permanent cure; it is an obstetric but not a gynæcological cure. The *débris* that is removed by even the blunt curette shows the inefficiency of an injection. And after an abortion, portions of the placenta or blood-clot are firmly adherent to the uterine wall and can only be removed by the sharp curette. M. Ferré has had a series of blunt curettes made for him by Mathieu for removing the non-adherent *débris*, and their use he considers an essential complement to intra-uterine injection.

POSTERIOR COLPOTOMY FOR INFLAMMATIONS AND NEOPLASMS OF THE UTERINE ANNEXA. By Dr. LWOFF, of Nazau, Russia, in *La Gynecologie*, April, 1898.

Dr. Lwoff upholds this operation in preference to laparotomy, and gives notes of 122 cases with 4 deaths—a mortality of 3 per cent. The steps of the operation are described with clearness and simplicity, and many interesting details are noted. Though no cases were found in which adhesions were not present, not once were intestinal adhesions of any consequence observed. The parts to be removed—tumour, ovary or tubes—were drawn well down into the vagina, and one or more silk ligatures applied; the same procedure was carried out on the opposite side, or if thought wise, the parts were returned into the abdomen. The vagina was again douched and the pouch of Douglas stuffed with sterilised gauze. In 7 cases of conservative or exploratory colpotomy no sutures were used at all. Of the 4 deaths 3 were due to septic peritonitis, 1 to a gonorrhœal myocarditis. In later life two of the patients were confined at full time successfully, 2 had to be operated upon a second time to be removed to the annexa on the other side. Dr. Lwoff recommends the operations when the parts to be removed are situated low in the pelvis and gives as advantages over laparotomy: (a) more rapid

cicatrization and recovery; (b) less risk, especially in cases of suppuration; (c) an easier after-treatment, and therefore more rapid return to ordinary life; (d) no abdominal cicatrix or risk of hernia.

NOTES SUR LA GROSSESSE EXTRA-UTERINE, BASED ON FIFTY PERSONAL OBSERVATIONS. By Dr. BOUILLY, of Paris, in *La Gynécologie*, April, 1898.

Dr. Bouilly concludes his paper entitled "Notes sur la Grossesse Extra-Uterine, based on Fifty Personal Observations." Surgical interference, he maintains, is as a general rule a necessity, although some cases seem to recover spontaneously with perhaps an attack of some local peritonitis, or may end, after a sudden attack of pain, syncope and sickness, in a uterine discharge lasting eight or ten days, that may at first be taken for the menstrual discharge. Such cases are, however, rare, and the general surgical rule may be laid down that extra-uterine pregnancy in course of evolution or arrested in its evolution imperiously demands operative interference. Patients are rarely seen before the pregnancy is advanced fully to three months. Only in 4 cases has Bouilly been called to see the case before rupture had actually taken place, and only twice has he seen cases so near to the moment of rupture as to make the idea of an urgent laparotomy, in neither of which the operation was performed, and in both of which he considers it should have been. The one woman succumbed to internal hæmorrhage, the other had a second hæmorrhage which nearly cost her life, and made operation more dangerous. The object, indeed, of the operation, is often to make further hæmorrhage impossible, and time is often gained by subcutaneous injections of serum. If possible, it has been proved better to wait twenty-four hours or so till the peritoneal shock and the acuteness of the anæmia are over.

The operation to be done is salpingectomy, removal of the ruptured Fallopian tube. It should be done with the patient in the horizontal position. Bouilly points out that the symptoms of shock do not depend upon the amount of hæmorrhage that has taken place, that the blood and foetus are rarely in a closed sac, but directly in the abdominal cavity, as a rule, and that not uncommonly, in addition to the recent rupture there co-exist old lesions of the ovaries or annexa. It is well to introduce for forty-eight hours a small drainage tube at lower end of incision. The mucous membrane covering the cervix should be incised and stripped back until the bluish, transparent peritoneum is seen. This is safer than incising further back directly through the serous membrane. Vaginal incision is for the simpler cases, laparotomy for the more complicated and uncertain cases.

A. A. W.

ON OPERATIVE GYNÆCOLOGY. By RUMPF (Berlin). *Archiv. für Gynäkologie*, Band lv., s. 178-267, 3 plates.

The history of gynæcological surgery, as regards its major operations, begins with ovariectomy before the use of antiseptics; large cystic tumours were those at first dealt with, and after the discharge of the fluid contents the care of the pedicle was the essential point, and it was secured according to its size, in parts, or as a whole by ligatures *en masse*.

In the operative treatment of uterine cancer by Freund's method also, the vessels were secured, almost without exception, by ligatures *en masse*, though objection was made by Crédé at the time to this unsurgical procedure. Freund's procedure afterwards gave place to vaginal extirpation, an operation hardly to be conceived without the free use of ligatures *en masse*. The most prominent surgeons, Czerny, Billroth, Bardenheuer, helped to establish this method, which was applied afterwards in myotomy and in the operative treatment of affections of the tubes. The peculiar anatomical arrangement of the blood vessels in the folds of the peritoneum investing such intra-abdominal tumours as gynæcologists deal with, led to this way of securing the vessels, by passing a needle through the tissues about them and ligaturing the whole mass, and in all the vaginal operations by which of late men have sought to avoid abdominal laparotomy, the partial obscurity of the field has inclined operators to ligature *en masse*; indeed until the pelvis was elevated, the same might be said for abdominal operations. Rumpf pleads for the adoption of more strictly surgical principles in gynæcological work, for the ligature of vessels separately rather than *en masse*, the observance of those preparatory steps by which the perilous ligature of the ureters may be avoided, considering it absolutely necessary, when at all near a ureter or in doubt as to the nature of any tissue resembling one, to clear up the matter by exposing the organ; he deprecates the preference for working with the scissors rather than the knife and in a special section of his paper to describing the proper surgical conduct of various operations, more especially those requiring laparotomy.

ANTERIOR COLPOTOMY. By ZWEIFEL. *Centralblatt f. Gynæk.*, xiv., 1898.

A detailed statement of Zweifel's views on this operation, which at the Moscow Congress he summarised as follows:—In every case the operator should choose that way which, in regard to danger and prospect of cure, most surely promises to let him complete his work free from blame. In inflammatory tumours

of the tubes, Zweifel differs from Veit in preferring laparotomy, on the ground that the adhesions of such tumours cannot be estimated; he is, moreover, a declared opponent to the so-called "unavoidable" extirpations of the womb, which are caused by the technical difficulties of the vaginal method.

**RETROPERITONEAL CHYL-ANGIOMA SUCCESSFULLY EXTIRPATED FROM A GIRL OF ELEVEN YEARS OLD.** By SARWEY (Tübingen). *Centralblatt f. Gynäk.*, xiv., 1898.

The cyst, which had existed for four years, had several times been tapped for mortal symptoms, and had yielded an enormous quantity of a fluid resembling pure milk. From the seat of the pedicle, close to the head of the pancreas, the tumour was at first referred to that organ; it had perforated the ligamentum gastro-colicum, and still covered by the posterior parietal peritoneum had advanced against the anterior wall of the abdomen. The contents resembled an emulsion of the finest fatty globules containing approximately the same amount of fat as milk, and were rich in albumen; the cyst wall on its inner surface was invested with a single layer of continuous epithelium. Extirpation was easy.

**ON MYOTOMY.** By WEILL (Strassburg). *Centralb. f. Gynäk.*, xx., 1898.

A statistical comparison of the methods of operation as regards their mortality, secondary injuries, &c., giving for (a) the extra-peritoneal method a death rate at first 18 per cent., then 13 per cent., and later 8 per cent.; for (b) the intra-peritoneal, 8 to 10 per cent.; (c) for the retro-peritoneal, 5.6 per cent.; (d) for abdominal total extirpation, 6.2 per cent.; and (e) for vaginal, 2.5 and 1.8 per cent. The author advocates vaginal total extirpation after Pean's method, with the use of compression forceps and piecemeal removal, as the surest, easiest, and most classical method of operation for all myomata that can be removed by the vagina.

**ON TORSION OF THE UTERUS BY TUMOURS.** By B. S. SCHULTZE. *Zeitschrift für Geburtshilfe und Gynäkologie*. Bd. xxxviii., Hf. 2.

While torsion of ovarian tumours and such myomata of the uterus as have pedicles are common enough, torsion of the uterus is comparatively rare. To 26 cases already published Schultze adds 5 personal observations and one of Küstner's. In these 32 cases, the torsion was due in 15 to myomata, in



17 to ovarian tumours. The puerperal condition seemed to be a predisposing cause in all the ovarian, but in only one of the myomatous cases. Schultze is inclined to believe that the restrictions imposed on the growth of the tumour by the walls of the pelvis and abdomen are the real cause of the rotation.

The symptoms of rotation depend partly upon its interference with circulation, which may be so great as to lead to congestion, hæmorrhage, necrosis of the tumour, and even to peritonitis, and partly upon its influence on neighbouring organs, most particularly on the bladder. The diagnosis is by no means always easy, and anamnesis and the objective conditions found by examination must be taken into account as well as the symptoms. Schultze points out, in regard to examination, that the ovaries are often missing from their normal position, and that the possibility of torsion of the uterus should be suspected in cases the symptoms of which, taken alone, would indicate torsion of the pedicle.

*Apròpos* of Schultze's article, Frommel (Erlangen) refers to two cases of torsion of the uterus by myomata, published by him in 1883—tumours of the fundus causing torsion of the uterus, more or less serious interference with the nourishment of the tumour—in each case relief by laparotomy.

**INTRA-PERITONEAL DRAINAGE IN LAPAROTOMY.** By J. G. CLARK. *Johns Hopkins Reports*, vol. vii.

The writer concludes from a review of all (1,700) the laparotomies made in the Johns Hopkins Hospital during the years 1889-1896, that drainage is generally useless, sometimes absolutely hurtful, and that there is no indication for it except in the following cases: when in a case of appendicitis of perforation of the vermiform appendix inflammatory infiltration of the surrounding tissue makes it impossible to close the wound; when there is reason to suspect the stability of an intestinal suture; in the excision of abdominal fistulæ, and in purulent peritonitis. Vaginal drainage is indicated in the evacuation of localised collections of pus in the pelvis.

**UNILOCULAR OVARIAN CYSTS.** By HENNIG. *Centralblt. f. Gynæk.* No. xviii., 1898.

Occasionally after rupture of a cyst, or even after torsion of its pedicle, one sees a kind of natural cure, and as long ago as 1837, Hartwich on this principle proposed the ligature of a dropsical ovarian cyst in a very complicated case of bilateral ovarian cystoma with myomata of the uterus, in consequence of technical difficulties. Hennig applied this method on one

side with good result. The cyst suppurated discharged externally and the new growth shrivelled to a small unirritating tumour. The pathological anatomy is shown by several illustrations.

**DIABETES, CONSIDERED FROM A GYNÆCOLOGICAL POINT OF VIEW.**

By KLEINWACHTER. *Zeitschrift f. G. u. G.*, xxxviii., Hft. 2.

This is based on twenty-two original observations as well as the literature of the subject, and if not containing anything essentially new has much that is noteworthy. In diabetes mellitus menstruation is generally diminished, but not always to a degree parallel to the sugar in the urine. Pregnancy in 66 per cent. is undisturbed, in the remainder is prematurely interrupted, but more often by miscarriage (seven or eight months) than by abortion. The prognosis for the mother is likewise doubtful (? an even chance), but Kleinwachter holds that the induction of premature labour, advised by many authors, to be contra-indicated, as thereby the mothers' chances are still further diminished. Diabetic women should not give suck.

Pruritus vulvæ, boils and acuminate condylomata are well-known diabetic symptoms. Affection of the vaginal mucous membrane and uterine, and necrosis of the ovaries are not so common.

Kleinwachter only found nine cases of diabetes insipidus recorded as having any influence on the sexual organs. He adds one case of his own; eight cases of these nine women had had children and five were again pregnant; one was a sterile spinster. On the whole the influence of diabetes insipidus upon the sexual functions seems to resemble that of diabetes mellitus.

J. J. M.

**A NEW OPERATION FOR THE RADICAL TREATMENT OF CANCER OF THE CERVIX, CONSISTING OF THE REMOVAL OF THE UTERUS AND VAGINA EN MASSE, BY THE SUPRA-PUBIC METHOD.** By X. O. WERDER, M.D., Professor of Gynæcology, Western Pennsylvania Medical College, &c. *The American Journal of Obstetrics and Diseases of Women and Children*, March, 1898.

The author refers to the large percentage of failures in the radical operations for the cure of malignant disease of the uterus, as seen by the large percentage of recurrences. The causes of failure are the inability to operate in strictly healthy tissue in cancer of the cervix and inoculation of healthy tissue with cancer cells during the course of the operation. To get better results it is essential to do more radical work at the seat of the disease, viz., the cervix and the vaginal fornices, which are frequently more or less extensively involved in the disease.

The author has come to the conclusion that the removal of the vagina, or at least its upper portion, with the uterus, is the only method allowing of complete extirpation of the diseased parts in cancer of the cervix. The technical difficulties of the operation would be overcome by opening the abdomen, severing the uterus as in ordinary hysterectomy, and freeing the bladder from it ; only the dissection would be extended down along the vagina, separating its anterior wall from the bladder as far down as we wish to remove the vagina. The recto-vaginal space is then entered and the posterior vaginal wall is stripped off the rectum as far as is necessary, and finally the lateral attachments of the vagina are loosened. The uterus can now be pushed down into the pelvic outlet, the vagina being inverted by making traction from below until it can be amputated above the prolapsed fundus. All this can be done without touching the diseased cervix at all with the fingers.

The author reports a case operated upon by this method on January 5 of this year. There was a cauliflower growth of the vaginal portion of the cervix completely filling the upper part of the vagina and invading the anterior vaginal pouch. The uterus was movable, and the parametria free.

After removing the cauliflower growth with a sharp spoon, and cauterising the surface, the patient was prepared for laparotomy. In the words of the author : both ovaries and tubes were found adherent, and the left tube distended with an ounce of creamy pus. After the ovarian arteries were secured the bladder was separated, not only from the uterus but from the broad ligaments on either side as far as possible, so as to get the ureters out of the way. This opened up both broad ligaments, and the uterine arteries could be easily traced over to near the pelvic bones, where they were tied without difficulty. An assistant having inserted two fingers into the vagina as guides, the dissection between bladder and vagina was then carried down to within about an inch of the vulva. The sacro-uterine ligaments were then divided with scissors, the rectum separated from Douglas' pouch, and with two fingers the dissection extended down to the lower half of the vagina. The lateral walls of the vagina were then freed from their attachments. The uterus and vagina were now only held by the base of the broad ligaments, which were very firmly bound to the vaginal fornices, the separation of which formed the only really difficult part of the operation. This having been accomplished and the broad ligaments completely divided, the finger could be passed all round the uterus and vagina, and at no place had the vaginal tube been opened. The loss of blood during the whole operation was insignificant. The uterus and vagina were then pushed down into the pelvic outlet and the bladder, with its peritoneal flap drawn across the pelvic cavity and stitched over the rectum to

the posterior wall of the pelvis, thereby completely shutting off the pelvis from the general peritoneal cavity and covering up all raw surfaces with peritoneum. The abdomen was closed in the usual manner. The patient having been put in the lithotomy position, the uterus, which was protruding at the vulva, was seized with volsella forceps and drawn completely out of the vulvar orifice with the inverted vagina. With a finger in the rectum and a sound in the bladder, the inverted vagina was amputated with the thermo-cautery. The cavity was lightly packed with gauze. The patient made a good recovery. By this method the operation is more radical than by the ordinary methods. It should give more permanent cures, even in advanced forms, because not only can the vagina be extirpated, but also the greater part of the broad ligaments, if care be first taken to push aside the ureters with the bladder.

THE COMPARATIVE VALUE OF CÆLIO-HYSTEROTOMY AND CÆLIO-HYSTERECTOMY IN CASES REQUIRING A CÆSAREAN SECTION.  
BY BARTON COOKE HIRST, M.D., of Philadelphia.

The author points out how in his earlier years he had held the view that Cæsarean section was a safer and a better operation than the Porro-Cæsarean section. Experience has, however, compelled him to change his mind, and he now regards cœlio-hysterectomy as the preferable operation, with a lower mortality and a greater freedom from complications. By a combination of the three factors, close suturing of the uterine wound, aseptic technique, and early operations, results were obtained with the Cæsarean section which made it preferable to Porro's operation; but with the improvements in the technique of hysterectomy the mortality from Porro's operation is as small, if not smaller, than from Cæsarean section. From the author's own experience he concludes that it adds nothing to the danger of a Cæsarean section to remove the womb, but on the contrary, it diminishes the risk of the operation, for it eliminates the possibility of *post-partum* hæmorrhage and lessens enormously the chance of puerperal infection. Complications at a later period are surely avoided by a hysterectomy. These are retention and decomposition of the lochial discharge, to which the undilated cervical canal does not give free vent if the operation is performed before labour; adhesions between the anterior, uterine and abdominal walls; persistent fistulæ communicating with the uterine cavity; rupture of the uterus in subsequent pregnancies and labours; and the necessity for repeated Cæsarean sections if the woman is allowed to become pregnant again. Whatever one's predilection may be in favour of hysterotomy or hysterectomy, he will admit that certain conditions in parturient women forbid a freedom of choice, and compel the selection of the latter operation.

The author's experience amounts to twenty operations performed for the following indications: fibroid tumours, two; dermoid cysts impacted in pelvis, two; cancer of the cervix, one; partial atresia of vagina, one; contracted pelvis, fourteen. Out of these he would have been compelled to perform Porro's operation, no matter what his preference may have been, in eleven cases. He concludes, then, that a Porro will be absolutely required in practice a little more frequently than Cæsarean section. As a matter of fact among the twenty operations seventeen were hysterectomies, and Dr. Hirst is convinced that this is about the numerical relation the two operations should bear to one another. Whether the uterus should be removed in the great majority of cases, however, depends entirely upon one's view point in regard to the justifiability of repeated pregnancies in women who can only be delivered by a Cæsarean section. On this point Dr. Hirst says, "I could not reconcile it with my conscience to condemn a woman to the probability of a repeated Cæsarean section, unless she herself and her husband demanded it. This, however, is a remote contingency."

It is unjustifiable to subject a woman with an insuperably obstructed pelvis to the dangers of subsequent pregnancies, and of a repeated Cæsarean section. Once this point is conceded it is unnecessary to argue further for a hysterectomy.

THE SURGICAL TREATMENT OF CATARRHAL EROSION OF THE CERVIX IN THE NULLIPAROUS WOMAN. BY PAUL F. MUNDÉ, M.D., Professor of Gynæcology at the New York Polyclinic, &c.

In this paper the author is referring to cases in which catarrhal inflammation of the endometrium has produced an hypertrophy of the glands and papillæ of the mucous lining of the cervical cavity sufficiently powerful to force apart the lips of the virgin os, and even to evert the lips to a degree scarcely distinguishable from the eversion produced by a parturient laceration of the cervix. Mere curetting and cauterization will not suffice to cure such a condition. Excision of the diseased tissue surrounding the external os, the limit of which is shown by the extent of the erosion on the cervix, and the union of the raw surfaces by sutures, offers an easy method of cure. The operation consists merely, after curetting the whole endometrium, in excising with slightly curved sharp scissors, or sharp slender knife, the entire diseased tissue to the depth of half an inch in a converging direction. The cervical cavity then has the shape of a funnel. The raw surfaces are then united by deep sutures, either silver wire or catgut. Usually two or three sutures on either side will suffice. As the whole tissue surrounding the

external os is excised, it is necessary to prevent complete closure of the cervical canal and os by passing a thin strip of iodoform gauze through it into the uterine cavity. This is changed every forty-eight hours for a week or ten days. This method of treating such cases seems preferable to the tedious treatment with curette and caustics.

**SUPRA-PUBIC OPERATIONS.** By JOSEPH PRICE, M.D., Philadelphia.

This is a wholesale condemnation of those who follow the vaginal method in operations on the uterus and its appendages. Dr. Price speaks of the vaginal method as "incomplete," and then goes on to say that if the patient survives the mental and physical torture, she goes into the hands of someone else with numerous sinuses about the groins, sacrum, and vaginal vault, with the pelvis charged with suppurating ovaries and tubes, the patient greatly emaciated, septic kidneys, and other important organs damaged. He does not produce a single example in support of such an overwhelming statement, but goes on to add that all cases with vaginal incisions and drainage remain ill patients. In his own words: "The completion of the bowel toilet, and the repair of large and small bowel, freeing of all adhesions, is more important than the removal of a simple suppurating tube or ovary, and the patients are not relieved or cured if lesions of the bowel are neglected or adhesions passed by or overlooked. By the lower route of operating the infection begins at the anus, and the dirty surgery begins there; the lower method is dirty from beginning to end. The tearing and opening of broad ligaments is opening up sources of infection wholly avoidable by the upper method, and the removal of suppurative forms of disease from below favours fresh infection by incisions in the midst of filth. . . ." There is much more in the same strain. "While this method may afford temporary relief, a more radical operation will be required later on. A great many cases where the vagina is incised and drained are placed on record as cures." Operations by the supra-pubic route open the field for the correction of all the concealed mischief and complications which are walled off from the vaginal route. Complete work offers the best chance for complete recovery in about all cases. The author claims that work by the vaginal route is rarely, if ever, complete. Many of the old operators who have abandoned the suppurative route for the vaginal have not improved their records.

J. F. J.

ON OPERATIONS ON THE RECTUM. By A. MARTIN. *Monatschr. f. Geb. u. Gyn.*, vii., 5.

Gynæcological patients frequently suffer from hæmorrhoidal troubles, anal fissure, or prolapse of the rectum, as also from fistula and ulcers of syphilitic or hæmorrhoidal origin, or indeed from injury by examination *per rectum*. The diagnosis of these affections is generally easy, but they often require surgical treatment.

The bleeding in rectal operations is principally venous, but often very considerable, and to control it Martin inserts several deep ligatures at the side of the anus. As a rule, four ligatures suffice which, at 3 and 4 cm. on either side of the anus, are carried through from front to back part of the perinæum. In extirpation of the lower end of the gut the mucous membrane is cut round in several segments and detached, and the upper edge of the wound is united immediately to the anal aperture by interrupted suture. This at first causes eversion of the gut and a gaping anus, but as soon as the precautionary ligatures are taken away, the anus diminishes and the intestine recedes more and more till the healing is complete. Union by first intention is the rule.

By this method he has operated successfully on twenty-three patients. It not only prevents hæmorrhage but diminishes the danger of infection of the wound and of subsequent stricture.

## OBSTETRICAL.

PREGNANCY FOLLOWING VENTROFIXATION, WITH IMPROVEMENTS IN TECHNIQUE. Author's abstract of paper read before American Gynæcological Society at Boston, May 24, by A. LAPHORN SMITH, M.D., Montreal.

The author's conclusions were based upon about 2,500 cases by 41 operators, including 111 cases of his own, reported in reply to a circular letter of inquiry.

(1) That as far as curing retro-displacements is concerned, whether retroflexion, retroversion, anteversion with retroversion, and also prolapse of the uterus, ventrofixation with two buried silk stitches passing through peritoneum and fascia, gives the most reliable results. Failures are unknown when the operation is performed in this way.

(2) Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as detaching of adhesions, and the removal of the diseased tubes which

caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because

(3) Although pregnancy only followed in 148 cases out of about 2,500, still in 30 per cent. of these, or 36, there was pain, miscarriage, or difficult labour requiring obstetrical operations.

(4) When suspensio uteri was performed, that is, the uterus attached to the peritoneum, only a few relapses occurred; but on the other hand, the patients were free from pain during pregnancy, and the labours were less tedious; neither did they require resort to serious obstetrical operations. The uterus should therefore be suspended rather than fixed to the abdominal wall, in all cases in which any part of the ovary is allowed to remain.

(5) A third method, it is claimed by some—namely, the intra-abdominal shortening of the round ligaments—is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube; or in cases in which the latter are not removed, simply to detach them from adhesions and shorten the round ligament by drawing up a loop of it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents, which are present in 30 per cent. of the cases of ventrofixation, are certainly avoided.

(6) If the uterus is attached to the abdominal wall, the stitches should be kept on the anterior surface, but near the top of the fundus; the complications were more frequent when there was too much anteversion than was the case when the anterior surface of the fundus was attached to the abdominal wall.

(7) As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

(8) Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labour unfavourably influenced by it. Alexander's operation should therefore be preferred whenever the uterus and appendages are free from adhesions.

(9) The results of Alexander's operation are so good that even when there are adhesions it might be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method, after which the abdomen should be closed. This could be done without adding more than half of 1 per cent. to the mortality, which in Alexander's operation is *nil*.



ON THE PROPRIETY OF CURETTING THE UTERUS IN DELAYED PUERPERAL INVOLUTION. By KNAPP (Prague). *Ibid.*, pp. 414-428.

Gives in tabular form twelve cases of puerperal subinvolution, in which the fundus still reaching midway between the pubis and navel on the tenth, or in the later ones, on the eighth or seventh day after delivery—he curetted the uterus, and involution was accelerated without any harm ensuing, and considers the operation suitable for all such cases, and not only for those in which ovular fragments are retained.

ON DILATATION AND DIGITATION OF THE UTERUS AS FORE-ACT TO TREATMENT. By SÄNGER. *Centralblatt f. Gynæk.*, vii., 1898.

In this article Säger again warmly recommends palpation of the uterine cavity as being in suitable cases much more valuable in diagnosis than the sound and curette, and especially so as it affords a knowledge of the condition of the walls of the organ. He advises dilatation by laminaria tents most carefully sterilised. In affections of the corpus, which are probably malignant, the use of the curette is superior to simple palpation, but palpation with curettage and microscopical examinations will give more information than the two latter only. Säger lays down the following indications for full dilatation:—

(1) *In abortion* for the removal of retained fragments, he describes a new ovum forceps for this purpose, and also new vulsella for fixing the portio, to be seen in the original. He has abandoned intrauterine tampons except in extreme atony.

(2) *In myomata of the corpus uteri*, whether for the removal of submucous myomata and myomatous polypi, or as a prelude to dividing the uterus in operating on larger myomata.

(3) For diagnostic purposes in certain enlargements of the uterus.

(4) When repeated scrapings have been without benefit before and after the use of the curette, the uterus is syringed out with sublimate (except in cases of abortion) and afterwards with soda solution; unless there is some exceptional difficulty no anæsthetic is required. In one hundred cases treated on these principles, Säger did not meet with a single death, though there were two cases of infective adnexal disease, with pelvic peritonitis, which recovered.

Gessner, in No. 12 of the same publication, opposes several of Säger's conclusions, more especially the necessity of palpating the uterine cavity, as well as exploring it with the curette, in suspected malignant disease. Exploration in most cases is sufficient in the treatment of abortion. Gessner condemns the

curette as having been already the cause of much evil, and the use of laminaria tents, even for the removal of remains, which are not aseptic.

THE SECRETION OF URINE IN THE FÆTUS. By L. SCHALLER.  
*Centralblatt f. Gynæk.*, xiii., 1898.

Phloridzin is known to cause an innocent diabetes, when administered to human beings, and with the object of deciding the vexed question of the secretion of urine during foetal life. Schaller has experimented by giving this drug to pregnant women. The results were not altogether convincing; the amount of sugar in the liquor amnii should be in direct proportion to the foetal secretion of urine, but in fourteen of the twenty cases the waters did not contain any sugar, and in the other six but a moderate amount. On the other hand, sugar can invariably be found in the urine of new-born children, if the last dose of phloridzin was given to the mother not more than thirty-two hours before delivery.

CONSERVATIVE OPERATION FOR CHRONIC INVERSION OF THE UTERUS. By F. A. KEHRER. *Centralb. f. Gynæk.*, No. 12.

In one case Kehrér adopted the following procedure, which he believes to be an improvement on Küstner's. The inverted uterus enveloped in gauze was drawn down to the entrance of the vagina, and an incision made on its anterior surface, through the whole length of the cervix, from the os externum to rather beyond the middle of the corpus, and extending into the peritoneal cavity; the wound was then stitched up from the fundus to the os internum, the inversion reduced, and finally the lower part of the wound sewn up as far as the os externum.

THE CONNECTION OF TUBAL RUPTURE AND TUBAL ABORTION WITH THE COURSE, PROGNOSIS, AND TREATMENT OF TUBAL PREGNANCY. By FEHLING (Halle). *Zeitschrift f. Geb. u. Gyn.*, xxxiii., 1.

On the basis of 83 tubal pregnancies, 51 of which were operation cases under his own observation during the last three-and-a-half years, while amending his own earlier views, Fehling attacks many dogmas that are still accepted. In the first place he complains that in spite of its importance for prognosis and treatment, sufficient distinction is not made between rupture and tubal abortion. He has found abortion eight times as frequent as rupture. The principle of treatment is very different in case of rupture, as in every case of unruptured tubal pregnancy, as

soon as the diagnosis is established one should operate immediately, but in tubal abortion with hæmatocele the treatment, at first, should be expectant. Operation is indicated if, in spite of rest under medical observation (*a*) the tumour continues to get larger; or if there are symptoms of (*b*) internal hæmorrhage; or (*c*) suppuration of the sac. He discards the simple vaginal incision, and advocates the removal of diseased adnexa by the abdominal method. Retroflexion of the gravid womb, retro-uterine tumours, softening myomata, and ovarian cysts must be considered in the differential diagnosis as well as other tumours of the tubes, especially sacto-salpinx purulenta, which he himself mistook four times for tubal abortion. Hæmatocele from pelvic peritonitis may complicate the case and increase the difficulty of diagnosis.

REPEATED ECTOPIC PREGNANCY AND LAPAROTOMY. By FALK (Jena). *Zeitschrift f. Geb. u. Gyn.*, xxxiii., 2.

A woman of 29, who in 1894 underwent laparotomy for intra-abdominal hæmorrhage due to rupture of a pregnancy in the right tube, was operated on again in 1897 for similar bleeding from a pregnancy of the left tube. She did well each time. Old perimetritic strings and adhesions were, in Falk's opinion, the ectopic gestation.

J. J. M.

CONTRIBUTION TO THE STUDY OF EXTRA UTERINE GESTATION. ON PREGNANCIES DEVELOPED IN HEALTHY FALLOPIAN TUBES. By E. PAQUY. *Thèse*, Paris, 1897; *Press. Méd.*, Dec. 24, 1897; *Rev. Obst. Intern.*, Jan. 1, 1898.

The author rejects the idea of sudden emotions, fright at the time of coitus being the cause, &c. He also rejects the opinion which attributes the ectopic pregnancy to a congenital malformation of the Fallopian tube, considering the fact of having met with tubal pregnancy in women having had previously several uterine pregnancies as sufficient proof of the incorrectness of such theory. The obstruction of the lumen of the Fallopian tube by compression from a tumour can only explain a few particular cases where a tumour exists.

According to Lawson Tait the uterus is the seat of normal fecundation. The cilia, which line the canal of the Fallopian tube, oppose the progress of the spermatozoa up the Fallopian tube. In order to allow the spermatozoa to reach the ovule in the salpinx, so that the fecundated ovum should attach itself to the tubal wall, it would be necessary that the cilia, which oppose the progress of the spermatozoa up the tube and carry the ovule into the uterus, should have disappeared under the influence of some previous inflammation. It would accordingly

be the destruction of the epithelium through salpingitis which would prepare the ground for the adhesion of the ovum to the canal of the Fallopian tube.

But it has been actually demonstrated that the spermatozoa normally reach the Fallopian tube where fecundation apparently takes place. The meeting of the ovule and spermatozoa does not take place in the uterine cavity. The basis of the theory of Lawson Tait is therefore false. Moreover, M. Paquy demonstrates that salpingitis is not necessary to explain the arrest of the ovum in the Fallopian tube. Ectopic pregnancy takes place in females that have no salpingitis. It occurs in women who have never presented any inflammatory phenomena of the uterine appendages. Lastly, the histological examination of gravid Fallopian tubes does not evince any lesions of salpingitis. Neither is it logical from the author's point of view to consider that metritis, which is a relative cause of sterility by preventing the development of the ovum in the uterus, should favour the occurrence of tubal pregnancy. In a word, the tubal mucous membrane must be perfectly healthy to enable the ovum to adhere to it and develop itself.

P. Z. H.

**BACTERIUM COLI IN RELATION TO THE ORIGIN OF PUERPERAL FEVER.** By SCHENK (Prague). *Ibid.*, pp. 427-438.

Among the organisms which cause puerperal fever are the streptococcus pyogenes, the staphylococcus pyogenes, Neisser's gonococcus and certain anærobic bacilli, discovered in the lochial secretion by Krönig; in comparatively few cases the bacterium coli. The author gives two such cases, one ending in fatal peritonitis, in which streptococci were also present, the other recovering, though the virulence of pure cultivations from vaginal ulcers was very marked. No cocci were present.

A spondylolisthetic pelvis is described by Jellinghaus (Halle), as a supplement to the clinical observation of the same case (vol. lii. Hft. 2). The woman conceived again, neglected to apply for premature delivery, and died from rupture of the uterus.

Meinert (Dresden) gives a case of tetanus during pregnancy after unilateral thyroidectomy. Tetanic spasms disappeared under chloral. Labour at term without accident: a sickly boy, who at 4 months had convulsions, and died at 9 months old. About a year afterwards, in the eighth month of her eleventh pregnancy, premature labour was induced on account of severe and obstinate tetanus. Improvement followed, and was aided by thyroid tablets. Tetanus, after such a unilateral operation, does not seem to be recorded. The reappearance of the spasms in

the latter pregnancy may have been due to the contraction, which had in the meanwhile occurred in the remaining part of the gland.

J. J. M.

PUERPERAL SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCUS SERUM. By C. L. FRASER, F.R.C.S. *Lancet*, February, 1898.

This was a successful case and is worth noting in some of its details.

The patient was a very thin, pale, and delicate woman, aged 25. At her confinement on December 10, 1897, she could render herself very little help, the pains were feeble and useless, consequently she was delivered by forceps, in regard to which operation there was no particular difficulty. For two days she did very well, but on December 13 the temperature in the morning was 102° F. and the pulse was 104. There was no abdominal tenderness but there was a very slight fœtor of the lochia. On the 14th the temperature was still 102° and the fœtor was more marked. The uterus was washed out with a 1 in 60 solution of carbolic acid and then with hot water. On the 15th the temperature was 101°, but no local treatment was allowed as the patient felt so ill. On the 16th the temperature was 101.5° in the morning and 103° at night. On the 17th the temperature reached 103° and during the night a severe rigor had occurred; the onlookers thought she had convulsions. The pulse was very fast and thready, nearly "running." The face was pinched and anxious, with a death-like pallor. With difficulty the uterus was curetted, well washed, and flushed with carbolic acid solution and then packed to the fundus with iodoform gauze. Its cavity was large and uncontracted and before the washing the odour was very strong. She was being well nursed and was fed with milk, raw meat juice, and brandy. On the 18th the temperature was 104.2° in the morning and the pulse was 120, soft, and very compressible. The gauze was removed from the uterus, but the septic odour was easily perceptible through the iodoform, and the skin was sweating profusely and was blotched over the chest and abdomen. At 3 p.m. 10 cc. of anti-streptococcic serum were injected into the cellular tissue of the abdominal wall. At 8 p.m. the temperature was 102.6°, the pulse was 106, the respirations were 24, and headache was nearly driving the patient frantic. She felt so ill and weak that neither she nor her friends would allow further washing. On the morning of the 19th the temperature was 100° and the pulse was 92. The patient had had a better night; the headache was much less severe, the discharge was not so fœtid, and she had a sense of feeling better. 10 cc. of the serum were injected. At

8.30 p.m. the temperature was  $101.2^{\circ}$  and the pulse 104. The discharge did not smell foetid. The headache, however, was still severe, but a six-grain dose of butyl-chloral relieved it. On the 20th the temperature was  $101^{\circ}$  and the pulse was 104. The headache was easier, the pulse firmer, the tongue cleaner, the skin drier and less blotchy, and the anxious, pinched face had smoothed out a little. The uterus was washed out with carbolic solution and 10 cc. of the serum were injected. On the 21st the temperature was  $100^{\circ}$  and the pulse was 108. The headache was easier, as also were the other symptoms. On the 22nd the morning temperature was  $99.6^{\circ}$  and the pulse was 100. She was still improving, and the head especially was comfortable. The uterus was washed out with strong carbolic solution and a shred came away of what appeared like macerated membrane about two inches long. The fœtor was not marked. At 8 p.m. the temperature was  $101^{\circ}$  and the pulse was 108. The headache was worse and altogether the patient was not so well. On the 23rd, to my great disappointment after such a struggle, the temperature was  $104^{\circ}$ , the pulse was 120, and all the symptoms were aggravated, the headache being terrible. A severe pain had attacked the left leg, which was slightly swollen. The veins in the popliteal space were hard and corded and the calf was very tender to touch. Large linseed poultices were applied. On the 24th the temperature was  $103.4^{\circ}$  and the pulse was 116. The head was very painful, but the pain in the leg was not so intense. There was no fœtor at all from the discharge and the other symptoms were more favourable.

The course of events from this point is of great interest, for the temperature fell  $1^{\circ}$  every morning until it reached normal on the 29th, the pulse corresponding. The tenderness of the leg gradually disappeared, likewise the swelling; the corded veins softened very quickly, and by the end of the month the patient could move the leg about quite freely and without pain. Her further progress has been uneventful if slow. It seems to me that it is just possible that the serum may have assisted such a very rapid resolution of symptoms which had all the appearance of a genuine phlegmasia.

THE HISTORY OF PUERPERAL FEVER IN THE CHARITY HOSPITAL AT BERLIN. By VELDE. *Archiv für Gynäkologie*, Band lv., S. III.

An address delivered last year to the Medical Society of the Hospital, showing that from 1852 to 1860 the mortality varied from 1.5 to 16.7 per cent., afterwards, with many reversions, diminishing gradually to 0.23 per cent. in 1895.

J. J. M.

PRINCIPLES OF TREATMENT IN PUERPERAL ECLAMPSIA. By WILLIAM WARREN POTTER, M.D., of Buffalo, N.Y.

The principles advocated in this paper are grouped at the end under the following heads:—

(1) Though the pathogenesis of eclampsia is unsettled, it belongs solely to the pregnant or puerperal state. It is not apoplectic, epileptic or hysterical in character.

(2) It depends upon toxæmia due to over-production of toxins and under-elimination by the emunctories.

(3) These toxins probably have their origin in the ingesta, in intestinal putrefaction, in foetal metabolism—one or all—and there is co-existing sluggishness, impairment, or suspension of elimination.

(4) When the prodromes of eclampsia appear the kidney should be interrogated as to its functions and all symptoms carefully watched.

(5) Treatment is preventive and curative. Preventive treatment is medicinal and hygienic; curative treatment is medicinal and obstetric.

(6) Milk diet and distilled water should be given in the pre-eclamptic state to dilute the poison, hasten its elimination, and nourish the patient.

(7) Blood-letting should only be employed in plethora or cyanosis. It is liable to cause anæmia if persisted in or repeated, whereas red blood corpuscles must be conserved, not wasted. Glonoin diminishes vaso-motor spasm, hence may be given freely in appropriate cases. Veratrum viride is a cardiac depressant and a dangerous remedy if pushed to an extent that will control convulsions.

(8) Eclampsia is the expression of a further maternal intolerance of the foetus; hence, as a primal measure, the uterus should be freely emptied of its contents.

(9) Medicinal treatment alone is delusive, and when relied upon exclusively is fraught with danger both maternal and foetal, whereas in the prompt induction of labour is found a rational application of science to a desperate condition, and it furnishes the only basis of expectation for a diminished mortality.

J. F. J.

ON THE USE OF THE HIGH FORCEPS, MORE ESPECIALLY IN CONTRACTED PELVIS. By STEPHEN TOTH (Tauffer's Clinic, Budapest). *Archiv für Gynäkologie*, Band lv., p. 12.

A review of the use of axis-traction forceps (Tarnier's or Breus'), in 44 cases. In 10 cases of normal pelvis 7 children were born alive, 3 dead, 2 of which were enormous. In the

second group of 24 cases the pelvis was contracted, but delivery was completed by the aid of the forceps; there was 1 death from sepsis; fever in 7 other cases, none in the remaining 16; children born alive, 21; dead, 3. The last group is of 10 cases, in which the pelvis was contracted and the forceps was applied unsuccessfully. In one an attempt to turn was made after the failure with the forceps—which Toth himself agrees in condemning—and the result was fatal from rupture of the uterus and peritonitis; of the remaining 9, 4 were feverish, 5 apyretic. All the children were perforated. Toth endeavours to show that the mortality of the mothers delivered by the high forceps is considerably more favourable than that after turning or after perforation. But prophylactic version is certainly better for the child, and from the last 10 cases would seem to be less perilous to the mother than the high forceps, even when applied by experts. Toth, however, says that the great advantage of the high forceps does not lie in the happy results to the mother and child of their successful application, but rather in leaving nature to complete delivery in a large number of cases in which the advocates of spontaneous version would certainly have interfered.

THREE CASES OF INTESTINO-VAGINAL FISTULA FROM THE USE OF COMPRESSION FORCEPS. By SCHILLER (Berlin). *Zeitschrift f. Geb. u. Gyn.*, xxxiii., 1.

The cases occurred in extirpation of the uterus (two for carcinoma) by Broese; the first healed spontaneously, the other two patients died with the fistula unhealed. To prevent such accidents the author recommends that the forceps should be carefully covered with strips of gauze on the abdominal side. Broese had no fistula to deal with in subsequent radical operations by the vagina.

ON THE INFLUENCE OF MORPHIA AND ETHER UPON THE UTERUS IN LABOUR, WITH OBSERVATIONS ON THE PHYSIOLOGY OF THE UTERINE CONTRACTIONS. By HENSEN (Kiel Frauenklinik). *Arch. fur Gynakologie*, Band lv., s. 128.

These investigations have been carried out exclusively by the registration of the intra-uterine pressure, a method employed by Schatz for ergot, Dohnhoff for chloroform, Klikowitsch for nitrous-oxide, Acconci for chloral, ergot, cocain and quinine. In regard to quinine Smolsko in this way found that the uterine contractions were longer and more extensive but unaltered, the intervals unaffected and that the action marched with the increase of the dose. Chloral, Bechowszow found in large doses



enfeebled the contractions, but in non-narcotic doses promoted the enlargement of the os.

Hensen gives a picture (s. 131) of the apparatus he employed, consisting essentially of an intrauterine india-rubber bag, Fick's spring manometer and a kymographion (revolving drum); by repeated careful experiments he has obtained the following results:—

Morphia, in doses of from 0·5-2 cgr. does not affect the contractions of the uterus or the abdominal pressure.

Ether, after one or two minutes' administration, greatly diminishes the labour of the uterus, lessening the extent and prolonging the interval between the pains.

Labour commences again five to twenty minutes after the ether is stopped. In ether narcosis abdominal pressure is arrested.

J. J. M.

THE HISTORY OF PAIN AND THE MENSTRUAL HISTORY OF  
EXTRA-UTERINE PREGNANCY. By BARTON COOKE HIRST,  
M.D., of Philadelphia.

There are three cardinal symptoms of ectopic gestation: pain, characteristic in nature, manner of occurrence, and situation; irregularity of menstruation, often with the discharge of "pieces of flesh" (decidua); and these physical signs: for the first two, three, or four weeks a small swelling in the tube, no bigger than the end joint of one's thumb, and unadherent; later an exquisitely sensitive mass fixed in the pelvis by thick velvety adhesions.

As regards the pain, the author reports in a tabular form the history of twenty-two extra-uterine pregnancies. The pain may be described as a pain described by the patient in strongest terms; occurring in paroxysms with intervals free from suffering; appearing at any time from a few days to months after a normal menstruation; situated often in one groin, though frequently indefinitely referred to the lower abdomen; so severe as to occasion profound systemic disturbance with every appearance of excessive shock. This shock is not due to hæmorrhage, for the amount of blood lost may be only a little.

As regards the menstrual history, it is one of irregularity and often not of cessation at all. In six of the cases there was no cessation of menstruation and in four more the menstrual period was only delayed ten to twelve days. Prolonged uterine bleeding, on the other hand, preceded or followed by the discharge of decidua, is the almost universal rule at some period in the history of a tubal pregnancy.

J. F. J.

**ERGOT IN OBSTETRICS.** By Dr. MORE MADDEN. *New Orleans Med. Journ.*

Dr. More Madden considers that ergot may be given with advantage before or during the second stage of labour, if the presentation be cranial, and there be no obstacle to delivery in the parturient canal. In the first stage, it is to be recommended where from inertia there is evident danger to mother or child from a protraction of labour, but it is essential that the os uteri be sufficiently dilatable to allow speedy delivery by forceps, if necessary. During the second stage, the drug is of value in delay from simple inertia, or when there is reason to believe that subsequent hæmorrhage may occur, or any further complication which may demand its use. In the third stage, or post-partum, it may be used to hasten the expulsion of the placenta, to arrest hæmorrhage, to produce tonic uterine contraction, so that the uterine sinuses may become thoroughly sealed, and thus minimise the risk of subsequent septic invasion. It is of further value in arresting after-pains and promoting thorough uterine involution.

When given at all, ergot should be administered but once during labour, and in a full dose; this being infinitely preferable to repeated small doses. The author makes a practice, therefore, of giving 2 or 3 drms. of the fresh liquid extract by the mouth, together with 1 drm. by deep hypodermic injection in the gluteal region. In the 150 cases he specially cites where ergot was employed, seventy were primiparæ and eighty multiparæ. The result was favourable to the mother in 148 cases. Ninety-five times the drug was given before the birth of the child, and in fifteen of these during the first stage. The birth of the placenta in eighty-six of these cases was natural and spontaneous.

**PELVIC ABSCESS AND ACCIDENTAL HÆMORRHAGE IN A PREGNANT WOMAN.** By R. JARDINE, M.D., &c. *Brit. Med. Journ.*, January 29, 1898.

This is a very interesting case, and is therefore recorded as fully as possible, the daily progress and some other details only being omitted.

The patient, a Mrs. C., aged 34, VI.-para, was admitted to the Glasgow Maternity Hospital on April 29, 1897. She stated that she had never been a very strong woman, but had never had any serious illness. There had been nothing remarkable about her confinements except that after her third she had had an attack of "inflammation of the womb." After that for six months she had suffered from weakness, pain in the back, and "whites." She gave no history of ever having had any

discharge of pus from the vagina, but gave a confused account of having noticed a swelling in the abdomen midway between the umbilicus and pubes about three years ago after her fourth confinement. She stated that for the last month or so she had noticed that this swelling was rapidly increasing in size. Her last menstrual period had been towards the end of March, and it had been scantier than usual. Before that she had been quite regular. Eleven days before admission, after retiring to bed, she was seized with a sudden discharge of blood from the vagina, which lasted about nine hours. It came in a gush without any warning, and was accompanied by a little pain, dull in character, over the lower part of the abdomen, if anything more severe on the right side. She felt feverish and shivered at times, but there was no severe rigor. The blood was dark in colour, with some clots, but nothing else. She got up in the morning and did her usual housework. There was no discharge during the day, but, on retiring to bed the next night the discharge recurred in smaller amount. Up to the date of admission she had more or less discharge each night, but none during the day.

*Condition of Patient on Admission.*—She is weak, and very anæmic. There is evident pulsation in the veins of the neck, but no cardiac murmur. There is an abdominal tumour, central in position, measuring about  $7\frac{1}{2}$  inches vertically from the pubes, and 9 inches transversely in its widest part. The swelling is freely movable from side to side. It feels soft and elastic. There are no contractions evident; no foetal heart sounds, but a distinct uterine *souffle* is heard. No foetal parts can be felt *per vaginam*; the cervix is thick and soft, and the external os admits the tip of the finger. The internal os is completely closed. The uterus is enlarged, and lying well forward, and feels doughy and soft. In the anterior fornix, at the junction of the body and cervix a distinct groove is felt. This distinct groove was also noticed by Dr. Edgar, the assistant physician, who kindly examined her for me. We thought it was caused by the body of the uterus lying so far forward that it formed an angle with the cervix. At the *post-mortem* examination this was shown to have been the track of the sinus which we had felt. After the examination there was a little dark watery discharge. A douche was given.

The diagnosis presented considerable difficulty. She was evidently pregnant, but from her menstrual history she had only missed one period, and the one before that had been very scanty, so that, going by the history, she could not be more than two months gone. The uterus by its size would indicate at least between six and seven months. I was inclined to think we had to deal with a hydatid mole, but could get no indication of any vesicles having been passed. She was put

upon small doses of ergot, strychnine, and iron, and a liberal diet.

Next day there was a slight oozing of serum. The catheter had to be passed. She said she was feeling stronger. Her temperature was practically normal. She did very well until May 3, when some dark-coloured blood began to come away. In consultation with my colleague, Dr. Black, I decided to dilate the cervix with Hegar's dilators, and explore the cavity of the uterus. Under chloroform I pulled the cervix down and steadied it with forceps, and dilated until the finger could be introduced. The lower part of the uterine cavity was full of black clot, but no foetus could be reached. As the cervix was still full length I could not reach any distance into the cavity. Some of the clot was washed out, and a small Barnes's bag introduced. A firm binder was put on. The forceps had torn the mucous membrane of the anterior lip of the cervix transversely. The walls of the cervix were intact. The dilatation was done about 1 p.m. At 11.30 p.m. I removed the bag, and found the cervix was shortened considerably. On dilating further with my fingers, I found there was a foetus in its bag of membranes attached to the fundus of the uterus. More than half of the cavity was occupied by blood clot. I ruptured the membranes and drew the foetus down. The amount of liquor amnii was small. Dr. Black then dilated further, and delivered the body of the foetus, breech first. The head came off, but was caught in the fingers and removed. The placenta was detached from the fundus, and removed. It and the membranes seemed healthy, and showed no evidence of hæmorrhage. The uterus was thoroughly washed out, and it contracted firmly. The anterior wall of the cervix was found to have been lacerated. This had evidently happened during the dilatation with the fingers and delivery of the foetus, but we could not understand why it had given way.

A hypodermic of ergotin was given. The patient did not show any signs of collapse. Her temperature was 100° at the time of delivery. It had been 99° and 99·8° the two days previous.

*May 7.*—She was much weaker, and could not be roused. Temperature 100°. She gradually sank and died at 3.20 p.m.

*Post-mortem.*—The stomach and small intestine appear normal. The caput cæcum is firmly bound down in the right iliac fossa, and the vermiform appendix lies along its inner aspect in a direction upwards and inwards. When the caput cæcum is pulled forward and freed by section of its lateral adherents, a large abscess cavity, comparatively empty, is exposed. The cavity extends upwards as far as the crest of the ilium, where it is not limited by a very definite wall, downwards and inwards over the right side of the bladder by means of a series of sinuses. Purulent infiltration of the cellular tissue extends downwards as far as

Poupart's ligament and round the right side of the pelvis. The contents of the pelvis are now removed *en masse*; the rectum appears normal; the posterior aspect of cervix and uterus is opened by a median incision. This displays a longitudinal tear in the cervix anteriorly continuous through the whole length and thickness of the wall into an abscess cavity. This cavity appears large enough to admit a hen's egg, and is found to be continuous with the sinuses and cavities above described. The suppurative process has invaded the cervical tissue to some extent, and has passed through it by a short sinus about one-eighth of an inch in diameter and a quarter of an inch in length just within the external os anteriorly. It also appears to have perforated the cervix at the upper end of the tear. The internal surface of the uterus is covered with a greyish purulent exudation. No bacteria were found in the blood of the jugular vein on microscopic examination.

The cause of death seems to have been exhaustion, as there was no evidence of septicæmia. The discovery of the abscess was a complete surprise to me, as nothing in the patient's history pointed to its presence.

## EDITORIAL.

WE have received a communication from Mr. Lawson Tait, in which he takes exception to that portion of Dr. Christopher Martin's *résumé* of the gynæcological work done in Birmingham during 1897, which deals with the Birmingham Hospital for Women. The statement he protests against is that "the in-patient department is an . . . . old-fashioned farm-house, which has been altered and enlarged by the addition of isolated cottage wards. It is ill-adapted for the work it is called upon to perform."

The question of correspondence in such a quarterly Journal as the BRITISH GYNÆCOLOGICAL JOURNAL has on many occasions been considered, and on each it has been decided that a "Correspondence" heading was distinctly undesirable.

We cannot, therefore, publish Mr. Lawson Tait's letter *in extenso*, but think it fair to him to state his own opinion of this hospital in his own words. He says: "As I spent the best part of my life in working in this hospital, and took a leading part in adapting it for its purposes, it cannot be a matter of surprise if I regard it as more thoroughly adapted for its work than any other institution of its kind known to me."

In support of this statement Mr. Lawson Tait goes on to say: "Between 1884 and 1893, 1,350 abdominal sections were done, with 75 deaths—a mortality of 5·5 per cent. ; 382 operations were done for cystic disease of the ovary and parovarium, such as are usually included in the term 'ovariotomy,' with 20 deaths—an average mortality of 5·12 per cent." These results are what Mr. Lawson Tait has led us to expect at his hands, and constitute an additional testimony to his well-known skilful methods.

## NEW BOOKS, &amp;c., RECEIVED.

*(Besides exchangeable Journals.)*

- Traité de l'Art des Accouchements, par G. Farnier et P. Budin. G. Steinheil. Libraire, Editeur, 2, Rue Casimir-Delavigne, Paris.
- Archiv für Gynäkologie, Redigirt von Gusseron und Leopold. Verlag von August Kirschwald, N. W. Unter den Linden, 68, Berlin.
- Tonic and Spasmodic Intestinal Contractions, with Report of Cases. By X. O. Werder, M.D., Pittsburg, Pa. Reprint from October No., vol. xi., *Annals of Gynecology and Pediatrics*, Boston, 1897.
- Two Interesting Cases of Intestinal Resection with End-to-End Anastomosis by means of the Murphy Button, with Recovery. By X. O. Werder, M.D., Pittsburg, Pa. Murdoch, Kerr & Co., Pittsburg, Pa.
- Obstructive Laryngeal Affections and their Influence upon Chloroform Anæsthesia. H. Bellamy Gardner, M.R.C.S.Eng., L.R.C.P.Lond. Reprinted from the *Lancet*, June 11, 1898.
- A Lecture on Movable Kidney and its Treatment. By Leonard A. Bidwell, F.R.C.S.Eng. John Bale & Sons.
- Baby Feeding. A Doctor's Advice to Mothers on the Rearing and Management of Infants. Simpkin & Co., London.
- Eleventh Annual Report of the London Throat Hospital for Diseases of the Throat, Nose and Ear. Alexander & Shephard, Printers, 27, Chancery Lane, W.C.
- Successful Operation for a Case of Pulsating Tumour of the Temporal Region of Eighteen Years' Standing. By C. Yelverton Pearson, M.D., F.R.C.S.Eng. John Falconer, 53, Upper Sackville Street, Dublin.
- The Progress of Abdominal Surgery. By C. Yelverton Pearson, M.D., F.R.C.S.Eng. Ballière, Tindall, & Cox, 20-21, King William Street, Strand, W.C.
- I.—"The Causes of Death after Abdominal Section." II.—The Treatment of Pregnancy complicated by Fibroids of the Uterus." H. J. Boldt, M.D. From the *Transactions of the Medical Society of the State of New York*, 1897.
- A Clinical Contribution to Tubal Pregnancy. H. J. Boldt. William Wood & Co., Publishers, New York.
- Braithwaite's Retrospect of Medicine, vol. cxvii., 1898. Simpkin & Co., Ltd.
- Transactions of the American Association of Obstetricians and Gynæcologists, vol. x., 1897. Wm. J. Dornan, Printer, Philadelphia.
- Text-Book of Diseases of Women. Penrose. Rebman Publishing Co., Ltd.
- Operative Gynæcology. Kelly, vol. ii. Henry Kimpton, 82, High Holborn, W.C. London, 1898.
- Massage Gynécologique, par Gustave de Frumerie. G. Steinheil, Editeur, 2 Rue Casimir-Delavigne, Paris.
- Fracture Intra-uterine du Crane. Dr. G. Alvarez. *Bureaux des Annales de Médecine et Chirurgie infantiles*, 71, Avenue d'Antin, Paris, 1898.
- New Forceps for Intestinal Anastomosis. Ernest Laplace, M.D., LL.D. From the *Philadelphia Medical Journal*, 1420, Chestnut Street, Philadelphia.

# THE BRITISH GYNÆCOLOGICAL JOURNAL.

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VOL. XIV.—No. 55.

NOVEMBER, 1898.

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*THE BRITISH GYNÆCOLOGICAL SOCIETY.*

THURSDAY, JULY 14, 1898.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : 45 Fellows and Visitors.

## THE TREATMENT OF DYSMENORRHŒA.

The adjourned discussion of the papers on this subject by Mr. Skene Keith and Dr. Granville Bantock was resumed by Dr. HODGSON, who said that the discussion had decided the question that there was such a thing as mechanical dysmenorrhœa, and that it could be cured by mechanical means. He was glad to find that Dr. Bantock advocated the use of the stem pessary ; he had himself found it very useful in many cases. It did not answer invariably, and especially in cases of spasm, for in such cases it was apt to be shot out ; for these patients he had generally ordered antispasmodics in addition to local treatment for reducing the spasm, and in some cases he was accustomed to sew the stem pessary in, fastening it to the cervix and leaving it to



cut its way out, which it invariably did in from a fortnight to six weeks, exhibiting no trace of the suture track, instructions being given for a daily antiseptic douché so long as the stem remained. He had seen no cases of harm resulting from a stem pessary, although he had come across cases in which patients had intentionally retained the stems for six months, and in one case a patient reluctantly allowed it to be removed after three years. This latter patient had suffered intensely until the age of 27, when the stem was introduced, and since which time, now eight years, she has not had an hour's pain.

Dr. SNOW said that Dr. Bantock, in advocating gradual dilatation for antelexion had taught them some of its disadvantages ; but he would ask what advantages it possessed over rapid dilatation under an anæsthetic ? One special advantage of the latter plan was that it reduced antelexion, and so obviated the risk of perforation of the uterus. If a patient married, dysmenorrhœa generally got better, whether gradual dilatation or any other method had been adopted ; but in the case of virgins, in how many cases was the improvement after gradual dilatation permanent ? The ring pessary had been severely criticised as a means of treating dysmenorrhœa ; but he believed that in many cases it had a marked beneficial effect, irrespective of flexion or version. Its mode of action was that it put the vaginal walls on the stretch, so tended to equalise the circulation and to relieve congestion. He thought the Society would not follow Dr. Bantock in maintaining the mechanical view of dysmenorrhœa exclusively. There was another factor to be borne in mind, namely, the neurotic. All cases could not be explained as resulting from mechanical causes.

Dr. BURLEIGH ROBINSON agreed with the objection raised by Dr. Giles at the last meeting, to the term "obstructive" as applied to these cases of mechanical dysmenorrhœa. The pain was due to congestion, and when to the flexion there was added displacement, the congestion became more marked, because the broad ligaments became twisted and

were made taut, and as the veins were affected more than the arteries, the blood flow was hindered, and the veins tended to assume a varicose condition. In 1892 he had published a paper in which he advocated the treatment of this congestion by means of an inclined plane, so as to relax the broad ligaments. Leeches were used formerly for the same purpose. He had employed the inclined plane with success in several cases; he had found it advantageous that the patient should maintain this position for three or four days before the period was due, and in other cases he recommended that it should be employed at night for several months, by means of blocks placed under the foot of the bed.

Dr. TRAVERS said he had been paying attention to dysmenorrhœa for thirty-five years; and had seen cases yield to Hewitt's, Hodge's, and to various other kinds of vaginal pessary. He thought it should not go forth that this Society condemned all vaginal pessaries as useless in the treatment of dysmenorrhœa. He had obtained good results in some cases from the stem pessary; but in most cases he preferred some form of vaginal pessary.

Dr. PURCELL said there was an important question to be considered, namely, what treatment was to be adopted in those cases of young women who might, perhaps, be the subjects of some kind of flexion or displacement, but in whom the condition of the vulva and vagina did not admit of an examination, far less of local treatment by dilators, pessaries, or surgical procedures. Here they must rely on medicinal means and measures of depletion. When the vagina admitted of local treatment, he thought that gradual dilatation answered best, as it did in dealing with organic stricture of the male urethra. He advocated the exploration of the uterus in virgins the possessors of a hymen through the rectum as being the most satisfactory procedure; by this means the hymen is preserved intact, and only if necessary need the examination be made *per vaginam*.

The PRESIDENT remarked that he believed in a clear gynæcological and scientific differentiation of the causes of dysmenorrhœa ; the history, and digital examination, with the assistance of an anæsthetic, if necessary, would enable them to effect this, and to determine whether they had to do with an ovarian, tubal, uterine, hæmic, or neurotic cause. He did not consider that "mechanical" was a scientific term to use ; even in speaking of "spasmodic" conditions they were on dangerous ground ; most of these cases were associated with interstitial changes in the uterus itself, or secondarily in the tubes or ovaries ; whilst he thought there was no true analogy between these cases and spasmodic or organic stricture of the male urethra. In some, the flexion or displacement was congenital, in others acquired ; but whether the patient was young or old, an examination should be made, with an anæsthetic if necessary, and appropriate treatment employed. If a displacement were found, he could not see any ground for not using a pessary. As regards elevation by means of an inclined plane, he believed that this plan had been suggested long ago by Dr. Heywood Smith ; he had himself used it as far back as twenty years ago ; and the raising of the foot of the bed by means of blocks had been suggested by Goodell, of Philadelphia, who spoke of it as "putting the ovaries to sleep."

Dr. GRANVILLE BANTOCK, in reply, said that he had long ago given up the idea of neurosis as associated with pelvic disease. If a woman had pain, some cause for it would be found if it were looked for, and he hoped to live to see the term neurosis disappear. Dr. Giles said at the last meeting that dysmenorrhœa dated in many cases from the onset of menstruation. He believed, on the other hand, that it invariably began later, in the way he had described in his paper. Dr. Giles also objected to the term "obstructive," and said that the flow was in these cases generally scanty, and could find its way through even a small os internum, but this was just what it did not do. Dr. Giles went on to say that if there were obstruction there would be an accumu-

lation of blood behind the seat of obstruction, and that this was never found. He ventured to say that Dr. Giles had brought forward no proof in support of his statement; whilst he would remark, in corroboration of his own view, that the uterus was always enlarged in these cases. In reply to Dr. Snow, he objected to rapid dilatation because it injured the uterus unnecessarily; whilst the length of time the improvement lasted depended on the severity of the case. He had no faith at all in the ring pessary, which he might describe as the abomination of pessaries. Its effect was to distort the vagina, broadening it and shortening it; when the uterus was retroverted it tended to lie low in the vagina, and the effect of the ring was to keep it there; and as to an anteflexion, he did not see how a ring could have any effect on it at all. On the other hand, a proper shaped Hodge pessary just fitted the shape of the vagina, as shown in frozen sections. He did not see, moreover, how a ring could possibly affect the circulation. Dr. Travers seemed to think he had no faith in pessaries; it was quite the contrary, as his book on the subject would show: but he still maintained that no pessary placed in the vagina could affect the shape of the uterus.

Mr. SKENE KEITH, in reply, said that it was somewhat unfortunate that the discussion on his paper had been spread over so many months, because (in the latter part) the suggestion of their late President that, as the subject was such a wide one, it would be well to restrict attention to the two methods of treatment—Dudley's operation and electricity—had been forgotten. That this was the intention of the paper was also very clearly indicated in the first sentence. Taking the most elaborate remarks first, he regretted that Dr. Bantock took up his own line, ignoring both the intention of the paper and Mr. Mayo Robson's suggestion, and also that what he said about dilatation was somewhat vague; for example, while agreeing with the paper that moderate dilatation was curative when the patient became pregnant, he gave no indication of how often he

would put an unmarried woman through this ordeal. He also gave no indication when he would use the stem pessary, or why, if it was the good instrument he said it was, he did not use it always, and thus avoid a course of treatment objectionable and painful to any woman, but especially objectionable to the unmarried. He did not know why Dr. Bantock should think that he had never used stem pessaries, many besides himself did not like them for ante-flexion; strangely enough the one he had used most was the one Dr. Bantock recommended. The case he quoted was not one of ante-flexion, but of retroversion, with presumably more or less flexion, and for such he considered the treatment was good. While he disagreed with Dr. Bantock on some matters, he was glad to find that Dr. Bantock agreed with him in the main, on the subject of how the pain was caused. Dr. Bantock was of opinion that the pain did not begin until menstruation had been some time established, although he allowed to a backache. Two gentlemen corroborated his (Mr. Keith's) view, and he believed that Dr. Bantock had fallen into this error in a very natural way. Since the last meeting, two patients had told him that the pain began about the age of 20, exactly what Dr. Bantock said, but on asking more particularly he was told that there had always been some pain, and this was usually the case. He was also corroborated on the question of ovarian dysmenorrhœa, though if Dr. Bantock limited the word to the actual passage of the flow (a view not usually held, however), he could understand his statement that there was no such thing as ovarian dysmenorrhœa. Dr. Routh spoke of an instrument he (Mr. Keith) had never used, the buckle pessary. He said he had seen "no inflammation of any importance." No inflammation was good, but the qualification was not so satisfactory. Coming to the question of Dudley's operation, he found that six Fellows had tried it. Of these, four had been much pleased; one, Dr. Giles, fairly well pleased; and one, Dr. Heywood Smith, not pleased. Others who had spoken of the opera-

tion evidently did not understand what it did, apparently being led away by the difficulty of seeing how the internal os was to be dealt with, and supposing, from theoretical reasons, that a band in that position could not be affected. No amount of talking would make any one believe this; even feeling that the uterus had been made straight would, perhaps, not convince any one who for twenty years had believed that posterior central division of the cervix could make a uterus lopsided. Whatever it did it could not possibly do that. The result of the discussion seemed to be that when local treatment was necessary, opinion was divided between dilatation and Dudley's operation; but that while those who prefer the operation as a rule were willing to dilate when it seemed better, the former would under no circumstances try the operation. For an unmarried woman there was not the smallest doubt in his mind that a simple operation was preferable to a course of treatment, even if this treatment were not in some cases of so severe a nature as to cause very great pain and vomiting.

#### SPECIMENS.

##### CASE OF OVARIAN TUMOUR AND DOUBLE PYO-SALPINX.<sup>1</sup>

Mr. BOWREMAN JESSETT showed this specimen and read the following notes:

K. D., married, no children, aged 21, admitted into the Cancer Hospital on June 16, 1898, complains of pain in abdomen, especially on left side. Has noticed rapid increase in size of abdomen the past three months. Has lost flesh rapidly the last four or five months. Family history: no cancer or phthisis.

Six years ago was an in-patient at University College Hospital, and had a severe attack of typhoid fever, other-

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<sup>1</sup> For the notes of this case Mr. Jessett was indebted to his House Surgeon, Mr. Barton.

wise has always had good health. Has been married three years. No children. Menstruation always regular.

*History of present illness.*—Between three and four months ago noticed abdomen was increasing in size. There was some pain, and abdomen felt hard. Patient says the tumour has gradually been increasing and becoming harder. On June 14 vomited after breakfast, no other history of morning sickness.

*Measurement of Abdomen.*

Circumference at umbilicus	...	...	...	...	28½ inches
Circumference 2 in. below	...	...	...	...	31 "
Between xiphoid notch and umbilicus	...	...	...	...	6 "
Between umbilicus and symp. pubis	...	...	...	...	6 "
Between umbilicus and right ant. space	...	...	...	...	6 "
Between umbilicus and left ant. space	...	...	...	...	7 "

*Present condition.*—A rounded swelling reaching above level of umbilicus, more prominent on left side. Palpation causes pain. It is hard, extending further into left iliac fossa. Tumour is somewhat elastic. Dulness ill-defined.

*Per vaginam.*—Cervix rather high up and drawn somewhat to the left side, in fact, whole uterus is drawn over to the left side. The tumour in abdomen does not appear to be connected with uterus. The broad ligaments are thickened, and examination, especially bi-manual, causes pain.

*June 21.*—Mr. Jessett operated. On opening the abdomen, the parietes were found to be closely adherent to cyst, the adhesions being broken down with difficulty. The cyst was tapped, and about a quart of blood-stained fluid escaped. On endeavouring to deliver the cyst it was found to be firmly adherent to the pelvic peritoneum all round. This was carefully peeled off, and the hand passed with difficulty behind the right broad ligament. In endeavouring to lift this up the tube burst, discharging a quantity of badly-smelling pus. A ligature was passed round this, and the tube and ovary removed. In per-

forming the same manœuvre to the left broad ligament the left tube burst and discharged a quantity of pus. The ovarian vessels were ligatured outside the ligament, which was then divided, and the hand passed behind the uterus and cyst, which appeared to be firmly adherent to each other. In endeavouring to separate the mass and lift it out of the pelvis, the adhesions were so firm that it required much force to be exerted to separate them. In doing this, in the anterior part, a sudden gush of water occurred, which might have been the bladder or another cyst. On a sound being passed into the bladder, it was found that there was a long rent right across the fundus extending about three inches. With great care the cyst was separated from the bladder wall, and lastly peeled off the fundus of the uterus, which appeared quite denuded of peritoneum. The question then arose how best to deal with these two viscera—whether to perform panhysterectomy and stitch the peritoneum across the floor of the pelvis, or to bring the uterus up and fasten it to the abdominal wound. Considering the condition of the peritoneum in the pelvis, which had been so adherent to the mass, and the quantity of pus and urine which had been discharged into the peritoneum, I considered the chances of septic mischief would be considerably increased by removing the uterus, therefore decided to do ventro-fixation. The bladder then attracted attention. The rent in this viscus I carefully united with three rows of sutures, one uniting the mucous, a second the muscular coats, and the third the peritoneal coats. The peritoneum was then carefully united to the parietal peritoneum at the abdominal wound and fixed there, a long, large drainage-tube was passed through the rent in the bladder, and out through the urethra, thus ensuring the bladder being always empty, and also enabling me to keep the bladder washed out.

The peritoneum was flushed out with a quantity of sterilised water, and the uterus fixed to the abdominal wound, thus acting as a further support to the bladder.



There was a good deal of oozing from the torn adhesions in the peritoneum, so a Keith drainage-tube was inserted. The wound in abdomen was then united by three rows of sutures, and patient returned to bed.

The drainage-tube was removed after thirty-six hours. No urine returned by the supra-pubic tube in the bladder, which was cut off and withdrawn on the third day, and a self-retaining catheter passed into bladder. This was removed on the fifth day, and patient passed urine naturally.

From this point patient made an uninterrupted recovery, and was discharged from the hospital one month after the operation.

In the discussion that followed, Dr. PURCELL said he had had the pleasure of assisting Mr. Jessett at this operation, which was one of unusual difficulty. It exemplified the fact that even in such a serious accident as injury to the bladder a great amount of natural repair could be effected, and he congratulated Mr. Jessett on his success.

Dr. C. H. F. ROUTH also congratulated Mr. Jessett on the result of his case. It reminded him of what was first done, he believed, by Mr. Baker Brown, namely, the suturing of the bladder in three layers.

Dr. HEYWOOD SMITH asked how long the suppuration had been going on : was it long enough to allow the pus to become sterile ?

Mr. MAYO ROBSON observed that pelvic organs often recovered after most extensive injuries. The bladder, for instance, could be sutured with perfect safety when this was done with care. The plan he had found answer best was to suture the mucous membrane with catgut, and the outer layers with silk Lembert's sutures ; the latter were most conveniently introduced on a rectangular cleft palate needle. A similar plan might be adopted for injuries to the ureter, as he had tried in a case where the ureter was torn across in removing a fibroid. He believed he was the first in this country to deal with a ureter in this way.

The PRESIDENT said that a case like this of Mr. Jessett's was unique in their Transactions, for many of such cases died and failed to be reported. He agreed with Mr. Mayo Robson that the bladder could be repaired with a considerable degree of success. He would suggest to Mr. Jessett whether it was not better to do panhysterectomy in all such cases of extensive pelvic suppuration.

Mr. JESSETT, in reply, said that a few years ago, after such an accident as occurred in this case, he would have shut up the abdomen. As it was, it was largely as a result of all they had learned in that Society that he was able to go on with it. He did not think that panhysterectomy was suitable in such a case, because the opening up of so much cellular tissue in the floor of the pelvis, with so much pus about, might result in septicæmia. Moreover, in such a case there was a considerable tendency to oozing, and this was in large measure kept in check by leaving the uterus behind, which insured that the parts were kept at a certain degree of tension.

TWO INTERESTING CASES OF OVARIOTOMY. By H. MAC-  
NAUGHTON-JONES, M.D., &c.

*Case I.—Large Solid Scirrhus Carcinoma of One Ovary, and Anomalous Growth of the Other—Patient supposed to be Pregnant — Extreme Emaciation — Operation — Recovery.—* Mrs. C., aged 42, five children. Last labour September, 1894. Last catamenial period April, 1897. Widow since November, 1897. Last marital act September, 1897. I learned that pregnancy was suspected and an anomalous gestation surmised. There had been occasional attacks of diarrhoea and some sickness for the past six months.

I saw the patient on May 28, 1898. I found her greatly emaciated and very weak. The abdomen presented the shape and character generally seen with ovarian cystoma. On examination I found the skin tightly stretched over a

large solid mass in parts of stony hardness; this was movable, and appeared lobulated, while a sulcus to the left side seemed to divide it from a second mass occupying the left inguinal region.

I could disassociate the uterus from the tumour or tumours, the cervix was very hard, and there was an associated movement of the uterus.

I arrived at the conclusion that there were no products of conception, that the mass was ovarian, and Mr. Bland Sutton, who saw the tumour before operation, and was present when I removed it, considered that it was malignant, a view which I shared with him.

I operated on May 31. On opening the abdomen by an incision which had to extend from a short distance below the ensiform cartilage to the pubes, a small quantity of ascitic fluid escaped. The large mass was easily delivered, and the pedicle secured.

The second (left) tumour was then removed, and the pedicle dealt with. The only complication (which was a serious one for some time) was a return of diarrhœa, which was most difficult to control, and made the administration of nourishment also difficult. However, the patient left for the seaside one month after the operation, greatly improved in health. How emaciated she was before operation may be judged from the fact that she only weighed 6 st. 5 lbs. before going out.

These are the reports furnished me by Mr. Targett.

Mr. Targett reports the large solid tumour of the ovary as a scirrhus carcinoma.

Of the smaller specimen he says, "it is solid, pyriform in shape, and measures 4 inches by  $2\frac{1}{2}$  inches. It has a somewhat nodulated exterior. The cut surface shows a rounded gelatinous area in the broader end of the tumour. This area measures  $2\frac{1}{2}$  inches in diameter, and is fairly well defined. The rest of the tumour is fibrous, and traversed by large thin-walled vessels. The gelatinous area is not quite homogeneous in appearance, the peripheral zone

being more gelatinous than the rest. The Fallopian tube and meso-salpinx are normal.

"Histologically, the tumour very closely resembles the specimen recently exhibited at the Obstetrical Society and referred to a special committee."

[The ovarian tumour here referred to by Mr. Targett as bearing a resemblance histologically to the tumour reported on at the Obstetrical Society of London, the section of which I now show, is an adeno-fibroma, and was removed by me with a large fibroma of the uterus.]

*Case II.—Solid Ovarian Cystoma with Ascites—Ovariectomy after General Peritonitis, resulting in Complete Adhesion of the Parietal Peritoneum with Extensive Bowel Adhesions—Patient believed that she was Pregnant—Recovery.*—Mrs. S., aged 46, has had four children. Last pregnancy in 1894. Last catamenial period in 1895 (cannot fix date).

*History.*—I saw this case with Dr. Disney on May 13, who has given me these facts :—"I was called to see Mrs. S. for the first time on April 21. She was complaining of slight pains in the abdomen, and having for the past five months increased greatly in size, believed that she was in labour. I found a tumour inclined towards the left side, there was no fluid then, and the temperature was 99°6'. During the day the pain increased; at 11 p.m. I found a considerable amount of swelling, temperature 102°. Next day there was evident general peritonitis, temperature 104°, and on the 23rd she nearly collapsed. This critical state lasted about four days, temperature between 103° and 105°5'. There was absolute constipation between the 20th and 1st inst. despite many remedies. Then the bowels acted naturally. From 27th there was gradual improvement, and by May 1 the temperature was 101°, but did not become normal till May 11. There was a great amount of swelling, and pain on pressure all the time. She was removed on May 11 to the Home."

I agreed with Dr. Disney that immediate operation was the only step to save life. The patient was then suffering

from occasional attacks of pain, and was kept under the influence of morphia. She was in an extremely enfeebled condition, so much so that the question of removal to any Home had to be anxiously considered.

On the 21st I operated. The patient was so feeble that she could not stand, was greatly reduced, and further, a very rapid and feeble pulse made me anxious about the anæsthetic. This, however, as in the last case, was most admirably administered by Dr. Bakewell, to whom and to Mr. Sutton, who assisted me in the operation, I feel especially indebted.

On opening the abdomen ascitic fluid escaped, and the parietal peritoneum was found completely adherent to the large cyst wall—this was so to its entire extent. This I carefully detached all round before using the trocar, and when the cyst had collapsed the bowel was found in several places adherent in festoons to the posterior surface of its walls; in fact, considerable loops of intestine were attached and had to be carefully peeled off, the vessels where necessary being ligatured. When the pedicle was secured and all bleeding arrested, I inserted a drainage tube. This I removed on the fourth day. The patient went to the seaside on June 15.

The recent attack of severe general peritonitis, the universal adhesions, and extensive bowel attachments, at the time of the operation, and the importance of rapid operation before these adhesions had become stronger, are the principal points of interest. Had the operation for any time been delayed, its performance, in my opinion, would have been impossible.

The specimen Mr. Targett reports "as a multilocular ovarian cyst consisting chiefly of one large loculus, with imperfect septa. The whole specimen is about the size of an adult head. The pedicle appears to have been twisted, and the surface of the specimen was universally adherent. The meso-salpinx is plastered to the cyst wall, but the Fallopian tube in it is normal. The solid portion of

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**this specimen has the structure of a simple multilocular adenoma of the ovary. The smaller spaces are lined with columnar epithelium, and the larger ones are filled with a colloid substance. There is no evidence of malignant disease."**

*THE BRITISH GYNÆCOLOGICAL SOCIETY.*

SPECIAL MEETING.

SATURDAY, JULY 23, 1898.

DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

There was a very large attendance of Fellows, and the following guests :—

Professor Sanger, Leipsig ; Dr. Theodore Landau, Berlin ; Professor Mangiogalli, Milan ; Dr. Howard Kelly, Baltimore ; Professor Laphorne Smith, Montreal ; Professor Gardiner, Montreal ; Dr. Young, Sydney ; Professor Jacobs, Brussels ; Col. Sir James Clark, R.M.S.C., the Director - General Royal Medical Staff Corps ; Sir James Dick, K.C.B., and others.

Professor MARTIN, of Berlin, having been introduced to the meeting by the President, delivered his address, which was as follows :

MR. PRESIDENT AND GENTLEMEN,—I pray you to accept my most sincere thanks for the high honour you confer upon me by inviting me to-night to give an address on this special occasion to the wide-world-known British Gynæcological Society.

Gynæcology, indeed, can be said to have been born in the British Empire. As an instance of this I have much pleasure in mentioning the name of Sir James Y. Simpson, whose school ruled this department of medical science in those days when medical men all over the world began to awake to and embrace the diseases peculiar to women with special interest.

Gynæcology has only slowly but steadily obtained full title and right in the medical world ; operative gynæcology

especially has been, and is to-day, to some extent under the ban of surgery.

The development of ovariectomy is a good example of this, and I beg, therefore, to be allowed to make a few passing remarks on this subject to-night.

In the last century it was recognised that ovariectomy *could* be done, when the different pathological conditions and anatomical relations of the ovaries were viewed upon the *post-mortem* and dissecting tables : and in view of the extreme suffering dependent upon these conditions, it was argued that an operation for their removal *should* be practised, but McDowell, of Kentucky, was the first who conscientiously undertook ovariectomy in 1809.

At that time, when such heroes of surgery as Dieffenbach in Berlin, and Nelaton in Paris, declared that this operation could not be performed with safety and was therefore unjustifiable, there were indeed but few disposed to follow McDowell's example to interfere with this otherwise incurable suffering with the surgeon's knife.

I hope that the spirits of many a great operator will not condemn me whilst reviewing the historical development of ovariectomy, for time is brief. I point in the first place to the name of Sir Spencer Wells, whose venerable features we had until a short time since the honour and inestimable pleasure of seeing amongst us, as practically its originator. He has been the master of us all.

Though calling McDowell the father of ovariectomy, and without wishing to undervalue the names of Charles Clay, Atlee, Peasley, Baker Brown, and Thomas Keith in England and America, and of Stilling, Eduard, Martin and Koeberle in Germany, we have to acknowledge that it was Spencer Wells whose theoretical investigations and practical experiences have won for this operation a well established place in gynæcology.

Whilst recognising with the heartiest gratitude Sir Thomas' work we have to acknowledge that he has been most successfully seconded by the immortal evolution in



surgery, initiated by Lord Lister's introduction of the antiseptic system, and later on by the blessed work of Robert Koch, whose inquiries and discoveries have enlightened the path of scientific medicine through every department of pathology.

The field was opened and scientists were at work, and we most thankfully recognise that by the union of anatomists, physiologists, bacteriologists, chemists, surgeons, gynæcologists and of all medical investigators, a marvellous progress was accomplished in an astonishingly short run of years.

We realise to-day that it is generally not our task to kill microbes within the human body, but to avoid their introduction. From the antiseptic system we proceeded to the aseptic, the details of which even to-day have not yet reached their final stage.

We know that frequently it is extremely difficult, if not almost impossible, to render and to maintain an absolute asepsis, and that it still remains for us to accomplish this by the most accurate operative technic, so as to avoid interference with the physiological powers of resistance of our patients, not only by avoiding external injuries, but by guarding them against acute anæmia and nervous depression.

In this special department Spencer Wells and his scholars, who are at work to-day all over the British Empire, must always be recognised as having been ahead of the gynæcological army at that period of its history.

Some twenty years ago ovariectomy was looked upon as a well established operation, the technic of which apparently was well understood. Not only seniors, but juniors also, felt entitled to practise ovariectomy. Then, however, its development received a great stimulus, as we began to widen the indications and to complete the technical plan.

The high-spirited pioneers of ovariectomy viewed only the large and extensive tumours as indicative of ovariectomy. They had to struggle against the difficulty of diagnosis and were handicapped by the lack of anæsthetics. Increasing

experience permitted also the diagnosis of smaller tumours, and recognised that they may give rise to dangerous complications, such as twisting of the pedicle, intracystic hæmorrhage, inflammation and peritonitis. We have learned to realise the complication of pregnancy and the tendency of ovarian outgrowths to malignant degeneration.

It was stated that only an early removal of ovarian tumours of any size would give immunity to patients from the inevitable issue of these neoplasms. To-day, however, not only extensive tumours, not only those evidently of malignant character, but every neoplasm of what dimension it may possess indicates ovariectomy.

The little experience which Alfred Wiltshire and Spencer Wells had in connection with the removal of inflamed ovarian tumours proved the benefit derived therefrom. Also that form of oöphoritis which destroys ovulation and causes much suffering, not amenable to medicinal treatment, can safely and indeed must be removed for our patients' sake.

Hegar and Lawson Tait have helped us in this direction. We learned to value the complications of oöphoritis and its connection with salpingitis. Quite a new battlefield of pathology was discovered and bravely investigated and gained. To-day we meet more frequently with this form of disease of the ovaries than extensive neoplasms. Many of these inflammatory processes can be healed and cured by careful and diligent nursing, but there remains a large number which can be eradicated only by operation. Our statistics show to-day a majority of cases of oöphoritis and salpingitis, whilst neoplasms form the minority.

Another highly important and interesting step was the proposal to remove the ovaries, thereby suppressing ovulation, in order to allay severe pains arising from the pelvic organs, and to enforce involution of uterine myomata by inducing a premature climax. We shall always be indebted to Hegar and Battey for proposing and investigating this matter scientifically. Hegar based this procedure upon his practical experience and experimental investigations, and

fought for its introduction into the category of gynaecology. We must also link with sincere gratitude to these names that of Lawson Tait, who originated the very interesting, but not yet generally accepted hypothesis, that the Fallopian tube plays an important rôle in menstruation. In consequence of this Tait insists on the removal of the tubes. No doubt Tait's ingeniousness, energy and his splendid results have given this operation of castration a world-wide interest.

To my mind the drift of castration has undergone a remarkable change, when we so call the removal of healthy or nearly healthy ovaries, in order to produce a premature climacteric.

The very extensive territory of the operative treatment of myomata is limited to-day to the successful development of myomotomy. There remain only a small number of myomata whose removal is considered impossible or imprudent and where the treatment by castration would be deemed the proper operation. To this I must add that the value of castration for myomata is further questioned by those not very rare observations, that myomata develop in the senile age, and still further by those cases where myomata begin to grow after the removal of the ovaries.

Castration for neurosis has given but unsatisfactory results. Indeed we can only expect to treat neurosis with benefit by castration when the neurosis is in a decided ætiological connection with oöphoritis. Otherwise failures must be expected, as Windscheid has proved. This has only recently been demonstrated in the highly interesting papers of Hobbs and Russell. You know that it has been proposed to influence extreme cases of carcinoma of the breast by castration. The experiences of Stanley Boyd and Watson Cheyne have proved this procedure definitely as hopeless.

Quite a new point of view has been inaugurated by our French confrères on this question of castration. At the beginning all efforts were directed to the removal of healthy or diseased ovaries and tubes. Péan, whom we have lost

only lately, proposed in such cases to remove with the ovaries the uterus itself, adding uterine castration to the ovarian one. No doubt the uterus suffers sympathetically in these cases of ovarian disease. The discussion on this question is not yet closed. I am convinced that many a gynæcologist stands on my side when I say that experience has taught us that the subsequent health of our patients after the removal of the ovaries, destroyed or undergoing degeneration, does not warrant also the removal of the uterus. True, shortly after oöphorectomy the uterus often causes much pain and disorder, as a result of the excessive viability of its tissue when adapting itself to the different local conditions, but we cannot deny that frequently, when this first phase has been overcome, the cicatrisation in the pelvis and the comfort of the patient are favourably influenced by saving the uterus.

To-day it does not answer to discuss the question of ovariectomy by limiting it to its immediate effect. Werth and his scholar, Glaevecke, have been the first to study the subsequent effect it has upon patients whose ovaries have been removed. This has already been frequently discussed at different meetings of gynæcological and surgical associations. We will all agree that it wants many years of observation and thorough investigation. Let us, therefore, continue to discuss this interesting subject.

Some twenty years ago, Schroeder, whose name I dare say is quite familiar to you, inaugurated in his ingenious manner the question as to whether it is absolutely necessary in every instance to remove the whole ovary when only a part of it is diseased. Surely the conservation of only a small portion of the ovary is a matter of extreme importance to all patients in the time of sexual propagation. He proposed only to excise the diseased parts so that these young women could continue to menstruate and retain the possibility of conception. During the same period I had been engaged in investigating this same subject also. Indeed, when Schroeder read his paper on his experiences with resection of the

ovaries at the Obstetrical Society of Berlin in 1882, I was able to report that one of my patients had already become pregnant. Since then Schatz and others, and quite recently Olshausen, have published cases of pregnancy following resection of the ovaries. During the last few years a great number of similarly successful operations have been recorded, so that to-day it has been sufficiently demonstrated that we are justified in removing the diseased part of the ovary only and to preserve the healthy. This is equally true in such cases as hydropical transformation of ovarian follicles and partly degenerated outgrowths. We can either cut away the diseased part or destroy it by ignipuncture. Pozzi has published a long series of successful cases treated in this way. A sufficiently long experience shows that the remaining healthy part of the ovary retains its normal state and physiological activity. But if it does not, we can then remedy the defects by a second ovariectomy. The danger of a second ovariectomy is now much less than formerly.

In all these cases we must recognise the advisability of preserving for these young women their normal female functions. The preservation of a little healthy ovarian tissue is to-day of special importance, for we know that some women have been benefited by implantation of parts of ovaries. You have heard, I am sure, that Gregorieff and Frank could already publish cases where the patients became pregnant after such implantation, a very important prospective in the treatment of ovarian diseases.

By these rather general remarks I have endeavoured to give you the history of the indications for ovariectomy during the last twenty years, that is to say since ovariectomy has become a legitimate operation. The large tumours which indicated ovariectomy to our forefathers, have become extremely rare. The reason of this is not only that gynaecologists are now everywhere at hand to remove them, but also because we have learned to diagnose outgrowths in their earliest stages of development, and because it is now

everywhere admitted that ovariectomy is the proper treatment for their cure, irrespective of their size. The products of ovarian inflammation when not amenable to the ordinary measures of treatment do not allow of prolonged observation and delay, but indicate operative interference for their removal.

The *technique* of ovariectomy has also undergone marked changes during the last twenty years. We doubt not that the first operators, who had to deal with voluminous outgrowths, believed that they could only be dealt with by abdominal section. Forty years ago, however, the famous surgeon Atlee tried to remove a tumour lying within the pelvis by vaginal incision. In 1870 you know that Gaillard Thomas, Battey and others demonstrated the possibility of vaginal ovariectomy. Indeed, small tumours invite this route, as does also the operation of ovarian castration recommended by Battey. It may be that the procedure of vaginal ovariectomy practised by veterinary surgeons on cows with regular success influenced its adoption on the human being.

Probably some of you, like myself, had at that time done vaginal ovariectomy in suitable cases, but the increasing safety of abdominal operations, and the somewhat limited opportunity for the vaginal operation, helped us to forget such experiences. In fact, Hegar, our great master in Germany, condemns the vaginal operation still to-day in the fourth edition of his text-book of gynaecological operations, edited by himself and Kaltenbach, and maintains that its future is short.

In spite of this, no one will deny that there is a great change of opinion going on. The development of the vaginal operations for carcinomatous uteri, for diseased adnexed organs, and quite recently for uterine myomata, has proved incontestably the advantages of the vaginal route. The efforts to cure uterine affections by operation have proved that we can reach the ovaries very conveniently by incision through the vaginal *cul-de-sac*.

The progress of the vaginal operation as now practised, will always be associated with the name of Dührssen, who opened at the same time, like Mackenrodt, the abdominal cavity *per vaginam* for the treatment of intra-pelvic intra-peritoneal diseases. Of course there were occasionally faults and failures which, together with the difficulty of deciding between the vaginal and the abdominal routes, have inclined many gynæcologists to the latter. In spite of all this we cannot deny the value of the vaginal operation, and must further test it in suitable cases.

Let us now first view the progress of the abdominal operation during these last twenty years.

The prescription as to the position of the patient for the operation has undergone a remarkable change. Nearly everywhere the dorsal decubitus has been accepted, the operator standing by the side of the patient as is the method in general surgery. It was quite an individual modification when Péan placed himself between the legs, being then able to sit whilst operating. I followed his example, and still feel quite satisfied with it. It was an astonishing progress to place the patient in the Trendelenburg position, thus ensuring high elevation of the pelvis. Nobody will deny this miraculous effect. It avoids the awkward pro-cidentia of the intestines, it lays clear the operative field in the pelvis and simplifies the assistancy. This is indisputable. I am convinced, however, that the older operators, particularly those who operate whilst sitting, and have accustomed themselves to the aid of well trained assistancy, will but seldom use Trendelenburg's method. The coming men will look upon it as the regular method, just as we now look upon the aseptic system.

No one will perform to-day ovariectomy without narcosis. The choice between chloroform and ether will always be decided by individual impression. You know that local anæsthesia is adopted to-day in other departments of surgery. Shall it be used widely also for ovariectomy? Its practicability has been proved quite recently

by our highly-esteemed friend, Professor Simpson, the successor and nephew of the great Sir James, who by introducing chloroform will always be recognised as one of the greatest benefactors of humanity. Professor v. Rosthorn has published similar experiences and investigations with his assistant Kleinhans at the clinic in Prague. It would be truly of great advantage to avoid nausea, but as Simpson and Kleinhans have reminded us, it would be rather uncomfortable to operate in the abdomen of a conscious patient.

The greatest progress in ovariectomy was made after the introduction of the antiseptic system. We all agree, however, that in its earliest stage the life of the patient was in greater danger as a result of antiseptic poisoning than of the operation itself. This was soon recognised, and the excessive use of antiseptics will shortly be forgotten. We now depend upon a vigorous aseptic preparation of the patient, of the operators' and assistants' hands, and all instruments which are to be used. We reject now the large number of instruments which formerly were considered necessary and kept at hand. We depend upon exact hæmostasis and short exposure of the peritoneal cavity. We drop the pedicle with perfect security (extra-peritoneal fixation being forgotten everywhere to-day).

A better proof of the benefits of the aseptic system cannot be given than that ovariectomy can be undertaken in every stage of pregnancy, as Sir John Williams recently proved in his admirable Cavendish lecture on the complications of pregnancy and ovarian tumours. I have taken still further liberty with its safety. We used to perform ovariectomy after the patient had been confined and after she had given up suckling her baby. This is not necessary. Mothers can continue suckling their infants with perfect safety for both after the removal of the tumour. In three instances of this kind under my care the babies received the breast immediately before the operation. Three hours after it the breast was emptied artificially to avoid chloro-



form intoxication, but after another three hours the babies were put to the breast again. The mothers continued to suckle their babies, and all left the hospital in a fortnight quite well.

A special question is that of the ligaturing material. The pioneers used animal sutures in the form of leather threads. This was replaced by silk and metal, and during the last twenty years catgut has been extensively used. The kangaroo tail-tendon, which Marcy, of Boston, introduced, has not yet met with much demand. All such material must be aseptic, as it is intended to be. It must stand such aseptic preparation and must retain its durability for a sufficient length of time. I believe it is a great advantage to have absorbable ligatures. In spite of all, catgut is to-day widely disliked, and many a surgeon and gynæcologist gave it up altogether. Its preparation with juniper-oil or alcohol is quite a safe and convenient one, as I have tested in many hundreds of cases. I use it in all abdominal and plastic operations; in laparotomy only I add three or four silk sutures in the abdominal wound to prevent eventually breaking down by excessive vomiting, coughing or by meteorism.

The subsequent behaviour of the abdominal wound from the beginning of ovariectomy practice has been one of grave anxiety. No exactitude of adaptation of the adjacent surfaces of the wound, no perfect primary healing guarantee against a fatal distension. Ventral hernia through a weak cicatrix is a most disappointing memento of the operation. We tried to escape this by adopting another plan of incision. The incision in the old *operatio major* from the ensiform cartilage to the pubis was reduced so as only to admit two fingers. The rectus muscle was incised instead of the median line; the flanks were opened, the skin and superficial layers were incised transversely and the deeper layers vertically.

We have still to learn not only how to break up adhesions, but how to avoid them. To-day also we may see

ovariotomies fail, and worst of all in apparently very simple cases, from intestinal obstruction and paralysis. Is there sepsis or is there nervous disorder? On this point we are yet uncertain, but must continue to fight with all the weapons of anatomy and clinical observation in this part of the battlefield.

The progress of the vaginal *cœliotomy* since Dührssen's and Mackenrodt's publications is shortly to be reported. It was first undertaken to remedy uterine affections: Dührssen has further utilised it to remove diseased adnexa. His publications give an exact description of its advantages and disadvantages. It is well known that vaginal *cœliotomy* met with much enthusiasm for the operative cure of retroflexions, but its failures soon lost for it most operators.

Is it justifiable to question its utility in face of the mistakes and failures of these first operations, when its *technique* could not have been well understood? We experience now what our forefathers did in the early stages of abdominal ovariotomy. Nobody denies the correctness of the anatomical basis of vaginal *cœliotomy*; nevertheless it is abandoned and condemned at once instead of searching for amendment, and thus gaining the benefit of an ameliorated procedure.

I have practised colpotomy for nearly four years for a great variety of disorders of the pelvic organs. Most of them were complicated with peritonitis. Some details have been laid down before the profession on different occasions, notably at a meeting of the British Medical Association in London in 1896.

The great majority of these operations have been undertaken for pelvic peritonitis, uterine displacements and tubal disorder. Amongst these operations there were 131 vaginal ovariotomies done by anterior colpotomy, not to mention eight vaginal ovariotomies done by posterior colpotomy, during the years 1878-1884.

Instances of vaginal colpotomy have until recently only

been scantily published. Bumm and Fehling have come to an unfavourable decision based upon rather a limited experience. Under these circumstances I was highly pleased when I read the very interesting paper of Dr. Clement Cleveland, of New York, published in April of this year in the *New York Medical Record*, and to find that he belongs to our camp. Also Löhlein, who reports, in the last volume of his "Tagesfragen," twenty-one cases of ovariectomy done by vaginal incision. All this helps to confirm the favourable impression with which it was received last year at the Moscow Congress.

Undoubtedly it is of the highest importance to point out exactly the conditions most suitable for vaginal colpotomy.

First of all the vagina must be patulous or dilatable. Great density of the tissue and rigid vaginal and pelvic floors are extreme obstacles, and to the inexperienced would contra-indicate the vaginal route. The more experienced can overcome these difficulties without incising the vaginal orifice, but the danger of injuring the adjacent parts is increased. It prevents a clear view of the operative field, adhesions to the uterus, broad ligaments and intestines cannot be broken up under the control of the eye. The morcellation of the tumour and the ligaturing of the stump are also hindered. My own experience teaches me that we must pay great regard to these difficulties. It is very important for the tumour to lie completely or nearly so in Douglas' pouch, or for it to be possible to push it into it. Another *conditio sine quâ non* is that the tumour should have a certain degree of mobility, which can be ascertained by a rectal examination. Extensive and firm adhesions to the intestines and the lateral walls of the pelvis also contra-indicate this operation. I always bear these difficulties in mind, and I have not yet a single case out of over 700 where I had to abandon the vaginal and finish the operation by the abdominal method.

Undoubtedly perfect hæmostasis, thus preventing hæmorrhage in the depth of the pelvis, is an important point. If

the edges of the vaginal wound are kept open by suitable retractors and the intestines kept back by a sponge or gauze tampon, a good view of Douglas' pouch is obtained, and ligatures can be applied with ease.

I think it is a very important advantage of the vaginal route that on our way into the peritoneum, or after doing the intra-peritoneal part of the work, we can do whatever is indicated in the uterus and vagina, such as curetting, excision of erosion, or Emmet's operation. We can proceed to the total extirpation of the uterus if necessary. Löhlein reports two cases where he did vaginal ovariectomy late in pregnancy without interrupting this. It is admitted that vaginal coeliotomy is suitable only for ovarian tumours of moderate size, which are easily reached from the vagina and movable. Under such conditions the vaginal route has evident advantages over the abdominal and produces far less constitutional disturbance, even when the peritoneum has been injured to some extent, and the same length of narcosis in both operations. Perhaps this is due to the difference in the peritoneal exposure, or to the alteration of the intra-peritoneal tension?

The fact is recognised by most of our great operators. Schroeder used to compare the feeling of patients during convalescence after vaginal total extirpation with that of normal puerperal state. This observation was made in the antiseptic period, when all used to suffer more or less from antiseptic intoxication.

Another most important contrast is that in the abdominal operation we cannot insure against an unsatisfactory union of the wound and subsequent hernia; the vaginal wound may become sensitive and irregular, but up till now I have never seen a case where its after effects could be compared to that of a ventral hernia. Great trouble is often caused also by the abdominal wounds forming adhesions with the intestines, omentum and bladder. Up till now we have not been able to avoid these painful and fatal complications of abdominal ovariectomy.

Finally, I must not forget to call your attention to the fact that we need to keep the patients in the dorsal decubitus only for a short time after the vaginal operation in comparison with that after the abdominal, a matter of great importance in cases of heart disease, lung and kidney affections, gout, &c.

I have spoken of vaginal coeliotomy and you may wish to know through which *cul-de-sac* we should enter. Gaillard Thomas and the first operators, including myself, incised the posterior, and this method has been recommended by Mackenrodt, Löhlein and others quite recently. Dührssen performed the operation through the anterior *cul-de-sac* and so do I now. Undoubtedly the posterior incision is nearer to the ovarian pedicle when the normal anatomical relations of the pelvis are undisturbed. But I think we obtain a much better view of the pelvic cavity through the anterior. After separating the bladder from the uterus and having opened the vesico-uterine pouch we can easily insure them against injury. Having brought the uterus outside, half of the hand can then be introduced. Through this opening the pedicle of the ovaries is easily reached because the ligamentum ovaricum proprium is stretched when the uterus is outside. When of normal size the ovary can now be seen, but if greatly enlarged by outgrowths only its lower segments. We can fix the pedicle with a good forceps and pull the tumour downward and forward. If it needs evacuation cysts can be punctured to allow the fluid or other contents to escape without touching the peritoneum. After the tumour has been brought outside, the pedicle can be secured with ease, which is done in the same way as by the abdominal method. After examining the other ovary and the whole pelvic cavity, the operation is practically over. The uterus is now replaced in its normal position. When closing the wound the peritoneum is included in the same sutures which close the upper sections of the wound, and if necessary in cases of retroflexion, the uterus also is fixed to the vaginal wall. In

young women it is advisable to pass these sutures not higher than two centimetres above the internal os. This will answer to prevent further displacement and insures safety in case of subsequent pregnancy.

I must not forget to add that the uterus is easily freed in this way of its adhesions resulting from acute and chronic peritonitis and secured by a correct vaginal fixation in proper position. It is generally known that the patients recover rapidly after this anterior colpotomy.

Drainage I have not required in a single case out of my 705.

I beg to be excused from discussing the details of the posterior colpotomy, as I lack recent experience with this operation.

Allow me to add that out of my 131 cases of vaginal ovariectomy I have only lost two, that is to say 1.5 per cent. The mortality of the abdominal operations in the early part of Spencer-Wells' time was over 20 per cent., it gives to-day between 2 and 5 per cent. We know that many an operator can report a long run of recoveries in more or less complicated cases. I do not deny but that in those cases selected for vaginal ovariectomy there is often less complication by way of intense adhesions, metastasis and so on, so that the statistics of the two methods must be compared with great reserve. We all agree that statistics are often misleading, and we want great care not to be impressed by them wrongly.

I feel I have now detained you long enough, so I will conclude by saying that I have only touched upon the most important points in connection with the development of the great department of ovariectomy.

Let me hope that you will agree and join with me in the belief that another twenty years will reveal our works and investigations benefiting a most serious group of sufferings of the female sex.

Again I beg you to accept my most hearty thanks for allowing me to deliver this address. I am convinced that

you not only wish to do me honour personally, but also to all German gynæcologists. This increases my sincere confraternal thanksgiving.

At the conclusion of Professor Martin's address the PRESIDENT referred to the various important pronouncements made by the reader and the debatable principles which he advocated, on some of which wide differences of opinion still existed, and only to be settled by such great practical experience as Professor Martin enjoyed. The history of ovariectomy was a subject in which, as had been pointed out in the address, British gynæcologists could take a just pride. Shortly after the pronouncement of Dupuytren in the Academy of Medicine that the man who performed ovariectomy should be indicted for manslaughter, Spencer Wells, Baker Brown, and Clay led the way, and to Wells undoubtedly belonged the honour of establishing the safety of the operation, and to him and Péan we are indebted for the various hæmostatic measures leading up to the present more complete *technique*. To Tait is due the recognition of the work he did in the surgery of the Fallopian tubes and oöphorectomy. Among the most important of the subjects touched on were: The justification for oöphorectomy in cases of neurasthenia and neurosis, and the limitations of the operation; the question of oöphorectomy in cases of cancer of the mammary gland; the indications for ovariectomy in fibroma; the importance of asepsis; the complication of pregnancy and labour with ovarian cystoma viewed from the operative point of view; the relative value of the vaginal and the abdominal "ways" of operating; the conservative surgery of the ovaries by resection, and the various details of the operative *technique*, all had been dealt with in a manner such as they might have expected at the hands of a master of the gynæcological art. They were chiefly indebted to Professor Martin for his courteous acquiescence with the request of the Council of the Society to deliver as an Honorary Fellow an address on some gynæcological subject. He had placed the Society under an obligation, and he, the President, had

great pleasure in proposing that the hearty thanks of the meeting be accorded to Professor Martin for his able and instructive address.

Dr. C. H. ROUTH, in seconding the vote of thanks, referred to the difficulties met with by the earlier operators, recollection which came from his own personal knowledge of what Wells and Baker Brown had to contend with in this country. He congratulated Professor Martin on the splendid results of his operations and on the fearless line of an address which was the outcome of a huge experience and comprehensive personal knowledge of the different issues on which he gave his opinion. The Society was honoured by the appearance before it of such an orator, and he heartily seconded the vote of thanks.

Dr. BANTOCK supported the vote and Professor MARTIN briefly replied, saying that he took the invitation to appear before such a renowned Society as a compliment paid not only to himself but to German gynaecologists generally.



**THE BRITISH GYNÆCOLOGICAL SOCIETY.****THURSDAY, OCTOBER 13, 1898.****MR. F. BOWREMAN JESSETT, VICE-PRESIDENT, IN THE CHAIR.****PRESENT : 24 Fellows and Visitors.**

The following gentlemen were elected Fellows of the Society :—John Sandison Crabbe, Birmingham ; and H. C. Taylor Young, M.D., Sydney, N.S.W.

The following were proposed for election :—Patrick Joseph Burke, M.D., London ; Charles Frederick Dods-worth, L.R.C.P., M.R.C.S., Gunnersbury ; Willam Walter Don, M.D., London ; Frank Percy Elliott, M.D., Waltham-stow ; A. Lapthorne Smith, M.D., Montreal.

**SPECIMENS.**

Mr. CHRISTOPHER MARTIN, F.R.C.S., Birmingham, showed specimens of (1) Bifid Uterus with Retention of the Menses ; (2) Myoma of the Round Ligament.

**(1) CASE OF BIFID UTERUS.**

Mrs. B., aged 29, married nine years and a half, never pregnant, consulted me on June 27, 1898. She complained of intense pain at her periods, which got worse each month. The periods were regular, lasted five days, and were profuse. The pain was colicky, was felt on the right side of the lower abdomen, began two days before the period and lasted all the time. For some years she had noticed a lump on the right side of the hypogastrium. It got larger at each period, and was slowly increasing. On examination a round mass about

the size of a three months' pregnancy was felt to the right of the uterus and merging into it. On June 30 I opened her abdomen and removed her uterus. The right half of the uterus did not communicate with the cervical canal, and was distended with retained menstrual fluid as was also the right Fallopian tube. The left uterus with the right appendages was removed by the operation of panhysterectomy. The patient made a slow but complete recovery.

## (2) CASE OF MYOMA OF THE ROUND LIGAMENTS.

Miss S., aged 44, consulted me on October 1, 1897, for a rapidly growing abdominal tumour. Her menstruation was regular, occurred every three weeks, lasted five days, and was very profuse and painful. On examination I found the pelvis blocked with a large myoma. In addition there was a globular mass as large as a melon in the umbilical region, freely mobile, but tethered to the uterus. I put her on ergot and hydrastis and enjoined rest. I watched the case till April, 1898, when, as the myoma was rapidly growing, I advised operation. I opened her abdomen on April 20, and found the mobile mass was a myoma of the round ligament, very adherent to bowel. I removed it and then removed the myomatous uterus by panhysterectomy. She made a capital recovery and left the hospital on May 7. The myoma of the round ligament weighed  $1\frac{1}{2}$  lbs., and the myomatous uterus,  $2\frac{3}{4}$  lbs.

Dr. HEYWOOD SMITH asked at what point the uterine canal was occluded. An interesting feature of the case was the conservative occlusion of the abdominal ostium of the oviduct; did this occur at the first, or only later on?

Dr. C. H. F. ROUTH inquired whether the communication between the uterus and Fallopian tube was perfect? (Mr. Martin: When the Fallopian tube was opened blood was poured out from the uterus, which was seen to contract). In that case he thought it would have been easy to tie and remove the tube, and then proceed by the ordinary plan *per vaginam*. It was often said that the opening up

of the occluded channel through the vagina led to septic poisoning ; but that need not occur, though there was a risk of it if only a small opening were made and the fluid allowed to flow out. It was better to open freely and wash out thoroughly. This would have been a more conservative operation in Mr. Martin's case.

Mr. BOWREMAN JESSETT noted that in this case the left ovary was left *in situ*. It was a growing practice to leave one ovary when removing the uterus ; mental symptoms were apt to follow the removal of both ovaries. It would be interesting to see in future whether the benefit that followed the leaving of one ovary was due to the continuance of menstruation or to the presence of the ovary itself.

Mr. MARTIN, in reply, said that the occlusion of the canal was at about the level of the internal os, the cervix being patent below this point. The closure of the ostium probably occurred early. He thought that if Dr. Routh had been present at the operation he would not have advised the conservative measure. The cervix was narrow, and it would have been difficult to open up from below. This was about the eighth case of menstrual retention which he had seen ; in one case he made a free opening and washed out, but in spite of every care infection occurred.

CASE OF LARGE CERVICAL MYOMA OCCUPYING THE  
BROAD LIGAMENT—HYSTERECTOMY—RECOVERY. By  
ARTHUR E. GILES, M.D., B.Sc.Lond., F.R.C.S., Assistant  
Surgeon Chelsea Hospital for Women.

The patient, E. H., aged 29, married, was admitted into the Chelsea Hospital for Women on August 31, 1898, with the following history :—

*Menstruation* began at 13, but occurred only two or three times until her marriage at the age of 16. After this the periods came on regularly every four weeks, lasting

eight to nine days. The quantity was always considerable, with clots, fifteen or sixteen diapers being required. She had pain from three days beforehand till the end of the period. The last period finished on August 27. She had never been pregnant.

*Previous History.*—Patient had lived in China for six years, and had had three or four attacks of malarial fever. She had had the cervix dilated for dysmenorrhœa.

*Present Illness.*—Since Christmas, 1897, some burning pain had been noticed in the left ovarian region; for the last two months the pain had grown worse, and at the same time she had noticed the abdomen getting larger, the swelling being most marked on the left side. The veins of the left leg had been growing largely lately, and for some time she had suffered from frequent and painful micturition. For twelve months there had been loss of flesh.

*On Admission* the abdomen was the seat of a hard movable tumour rising out of the pelvis and reaching above the umbilicus, lying well over to the left side. Just above the pubes, and to the right, was a small firm swelling, which was thought to be the fundus of the uterus. By the vagina, the cervix was pointing to the left, close behind the pubes. The sound passed into the smaller tumour, for a distance of three and a half inches. The larger mass was felt in the posterior fornix and to the left of the uterus.

*Diagnosis.*—Subperitoneal myoma or solid ovarian tumour.

*Operation, Sept. 2.*—Under ether, an incision seven inches long was made in the median line, and a large myoma presented. It was found to occupy the left broad ligament. The peritoneum over it was incised, and it was enucleated from the broad ligament until its pedicle was reached, springing from the left side of the cervix. The right ovary and tube were ligatured off and left. The broad ligament was dissected down below the ligature, the right uterine artery was secured, and the uterus amputated above the cervix. The pedicle of the tumour, with the left uterine

artery, was secured with ligatures, and the tumour and uterus removed together. The left broad ligament presented a large raw cavity with oozing points. By bringing the edges of the sac together the oozing was arrested and the cavity nearly closed. No drainage was employed. The abdominal wound was closed in three layers. The operation lasted forty minutes. The tumour weighed 7 lbs., and was of special interest from its large size and its mode of attachment low down on the cervix. The body of the uterus was somewhat elongated but otherwise not involved, and lay in a well-marked groove on the anterior surface of the right half of the tumour.

*Convalescence* was uneventful, the temperature ranging from 98·6° to 100·4° for the first week, and then remaining normal. There was metrostaxis for nine days after operation. The stitches were removed on the eighth day, and the patient left the hospital well on the twentieth day after the operation.

#### A CASE OF FIBRO-CYSTIC MYOMA.

By ROBT. H. HODGSON, M.D.

Miss B., aged 51, was confined to bed for a month in 1885 with "Abdominal Inflammation," from which she recovered with apparently nothing abnormal left which could be felt in the abdomen. Her health, however, continuing to be very indifferent, she, in 1891, sought the advice of Dr. Playfair, who found that she had a fairly large fibroid, and expressed the hope that with the menopause and treatment it would disappear. Such, however, was not the case, for the tumour continued to increase, as did the number and severity of the pressure symptoms.

On July 24, 1898, her doctor asked me to see her in consequence of her symptoms becoming so urgent that he feared a fatal result might occur at any moment, although at times she seemed much better. I found her to be a woman who had evidently been well nourished, but was

now wasted. Her catamenia lasted two days and were small, and she had constant leucorrhœa. Her bowels could be relieved with difficulty only by drugs and enemata. Until recently she suffered from incontinence of urine, but now that had given way to a frequent desire to micturate.

She had a large tense abdomen with large and engorged veins. Her chest was also well marked with dilated veins, and her mammary areolæ were dark but not raised. Both her legs were œdematous and swollen, and appeared as blue mottled masses. The abdomen was tender to the touch, and on percussion its note was dull but not absolutely, and there was a sensation of false fluctuation. The lumbar regions were resonant. On examination *per vaginam* I found the os high up and pressed right over to the left side, it was firmly fixed, and the sound passed but three and a half inches. Behind the os was a solid fixed mass. On July 29 she came to town, and was put to bed preparatory to the operation on August 2. After she was under the influence of chloroform I opened the abdomen in the middle line. It was necessary to increase the incision to almost the whole length of the linea alba on account of the great tension on the abdominal walls, the outgrowths on the tumour and its position. There were no adhesions. I lifted the upper portion of the tumour out of the abdomen and again examining its relations below found the broad ligaments split up into layers, and the hard boss, now seen at the lower end of the tumour, so firmly wedged in the true pelvis that much against my wish I felt compelled to abandon the idea of a panhysterectomy, and to content myself with the *serre-nœud*.

Some difficulty was experienced in passing the wire round the pedicle, on account of the hard and immovable boss filling the pelvic brim and the cervix being forced over to one side. When the wire was tightened, and a careful examination made that no improper structure had been included in its grip, I thought it advisable to make a hole in the centre of a piece of mackintosh about two feet square,

and a cut from that hole to the side. With this I surrounded the pedicle, so that when I removed the tumour not a drop of blood entered the abdomen, although the flow from the tumour was very large. This saved the necessity of washing out the abdomen. The stump and wound were then treated in the usual way.

On examination of the tumour, it was found that although the sound passed only three and a half inches, the length of the canal was about nine inches, but the sound was arrested by the acute angle at which the cervix was bent. The weight of the tumour when first removed was about fifteen pounds, it is now thirteen.

The patient did well for the first twenty-four hours, but then showed symptoms of irritation of the bladder and could not bear the passage of the catheter, the use of which was therefore stopped. During the next twenty-four hours it was evident that cystitis was complicating matters, and I directed my energy towards combating that complaint, but in spite of all I could do, the bladder mischief increased and the patient died on the fifth day of exhaustion.

I think the cystitis was due to the following causes : Old-standing mischief to the neck of the bladder by the position of the tumour ; over anxiety to avoid including the bladder in the wire, leading to a too frequent use of the sound, the necessary after-catheterisation, and perhaps the lowered vitality of the patient.

#### TWO CASES OF UTERINE FIBROIDS — OPERATION — RECOVERY. By J. MACPHERSON LAWRIE, M.D., Weymouth.

E. B., unmarried, aged 43, consulted me on July 19, 1898, on account of some abdominal pain rapidly becoming worse. On examination, a large irregular tumour was found in the abdominal cavity, very hard, and diagnosed to be a fibroid of the uterus. The sound passed six inches.

Operation took place on September 6. On making a

good long incision through the abdominal walls, it was found impossible to separate the parietal peritoneum from the tumour, the two being firmly adherent together. The incision was prolonged upwards and to the left as far as the costal margin, when an opening was made into the abdominal cavity. Two fingers were inserted through this part of the wound, and the peritoneum stripped from the anterior surface of the tumour.

The tumour was separated with difficulty from the underlying viscera and from the left ovary and tube, on account of numerous adhesions, and was then brought outside. The pedicle was transfixed and divided, and both appendages were removed. The abdomen was thoroughly sponged out, and the abdominal wound brought together in three layers. No flushing or drainage was employed. The patient made a good recovery.

Mrs. P., aged 52, consulted me on August 9, 1898, on account of difficulty in retaining her water, and severe pain in the bladder which prevented her from sleeping at night.

Examination revealed the presence of a large abdominal tumour pressing on the bladder. A diagnosis of myoma was made and operation advised.

This took place on September 4. The abdomen was opened by an incision extending from the pelvis to the ensiform cartilage. The tumour was extracted with some difficulty, and an ovarian cyst was then found presenting on the left side of the abdomen, and deeply placed between the layers of the broad ligament. This was removed after securing an unusually broad pedicle with interlocking ligatures. The right broad ligament was then divided, the uterine arteries secured, and the mass amputated by a wedge-shaped incision through the cervix. This was brought together with catgut sutures, and the two flaps of peritoneum stitched together across the floor of the pelvis, while the patient was in the Trendelenburg position. The peritoneal cavity was sponged out, and the long abdominal wound united in three layers. There was no flushing or drainage.



Patient made a good recovery.

In performing these operations I am much indebted to Mr. Bowreman Jessett, who was staying with me at the time, and the successful results are greatly owing to his invaluable assistance.

In the discussion on these specimens, Dr. R. T. SMITH asked Dr. Giles whether the tumour came low down in the pelvis; it seemed to spring from the mesometrium. Had it grown rapidly?

Mr. C. RYALL asked Dr. Giles whether it would not have been possible to enucleate the myoma and leave the uterus? He said he would like to know why Mr. Hodgson used the *serre-nœud* in his case; nowadays the surgeon was a bold man who resorted to this disused plan. Had the bladder been washed out? and how often was the catheter passed? The catheter could be used with comparative immunity on healthy people, but not for patients confined to bed, especially after abdominal operations, for then there was always risk of cystitis.

Dr. GEORGE KEITH asked whether the catheter was used by Dr. Hodgson as a matter of routine in these cases, or whether the patient was first allowed to try to pass urine naturally? He thought the latter was the preferable plan.

Mr. BOWREMAN JESSETT observed that these cases pointed to the advantage of the intraperitoneal method; and to the value of the Trendelenburg position. For the stitching of the peritoneum over the stump this position was a necessity, because otherwise the intestines got in the way. Probably Schroeder lost his earlier cases through not stitching the peritoneum over the stump; had he done so the *serre-nœud* would probably have never come into use.

Dr. HEYWOOD SMITH agreed with previous speakers that the catheter should never be used after operations, except as an absolute necessity.

Dr. HODGSON, in reply, said that if he could have done the intraperitoneal operation he would have done a pan-hysterectomy, but the broad ligament was so spread out

that it would not have been possible to secure the vessels satisfactorily. The catheter was used every six hours from the first—four times in all. The bladder was not washed out because even the passage of the catheter caused shivering.

Dr. GILES, in reply to Dr. R. T. Smith, said that the tumour came low down in the pouch of Douglas, and also occupied the left side of the pelvis; it lay, as Dr. Smith suggested, in the broad ligament. It had grown rather rapidly. Replying to Mr. Ryall's question he said that the possibility of enucleating the tumour and leaving the uterus had been considered; but the blood supply of the tumour was so intimately related to the first part of the uterine artery that it was thought there would be too much risk of hæmorrhage if the uterus were left behind.

**CARCINOMA OF THE UTERUS, WITH BROAD LIGAMENT CYST.** Under the care of Mr. F. B. JESSETT, F.R.C.S., Surgeon to the Cancer Hospital and Gordon Hospital for Fistula.

[For notes of the first two cases I am indebted to Mr. Barton, my House Surgeon.]

E. G., aged 54.

*Family History.*—Bad. Father died of cancer seven years ago.

*Previous History.*—Has had one child, thirty-four years ago, which died soon after birth. Always had good health until three years since.

*History of Present Illness.*—Does not know when menopause occurred. For the last three years has had hæmorrhage from uterus more or less constantly. Last bleeding fourteen days ago, and this has left her very weak. Now complains of general weakness. First noticed a discharge from vagina *one year* ago. It is now offensive. No pain.

*Present Condition.*—No pain or tenderness on palpation of abdomen.

*Per Vaginam.*—Cervix very extensively ulcerated, and uterus appears enlarged. Vaginal walls not implicated. Movement of uterus only moderate.

*March 8. Operation.*—Vaginal hysterectomy performed.

As uterus was being brought down a large ovarian cyst growing from right side was found. This was tapped and then enucleated.

Patient left hospital April 13, 1898, convalescent.

*July 7.*—This patient came up to the out-patient department, and is to be re-admitted on July 11, as there is a recurrence of growth. This was freely cauterised with Paquelin's cautery at a white heat, and the patient discharged in three weeks with a good firm cicatrix.

#### VAGINAL HYSTERECTOMY—RECOVERY—CARCINOMA OF CERVIX AND FIBRO-MYOMA UTERI.

E. C., aged 41, admitted into hospital June 2, 1898.

*Family History.*—Bad. Strong history of cancer. Mother died of cancer of the uterus in this hospital seven years ago.

*Previous History.*—Has had fair health as a rule. Has had four children, only one is living. Menstruation always regular. Was quite well up to four months ago. At this time first noticed a thick, white, vaginal discharge. On April 28 patient had a severe hæmorrhage, and ever since this date has lost blood "at times." Last natural menstrual period ceased April 28.

*Present Condition.*—Feeble woman, with anxious expression. Complains of bearing-down pains, and pain on micturition, also a great desire to micturate, but only small quantity is passed. Urine examined thoroughly, and found normal. There is a copious, thick, yellowish-white discharge exuding from cervix. This discharge is not offensive. Cervix is ulcerated and the growth is undoubtedly an epithelioma. The uterus, however, is mobile, but its mobility is checked by a mass posterior to the uterus. The

mass, which lies behind the uterus, feels like a fibroid tumour, and is pressing the whole uterus and appendages forward. Abdominal muscles very contracted during examination, which is painful, hence patient is difficult to examine without aid of an anæsthetic.

*June 7, 1898.*—Mr. Jessett performed vaginal hysterectomy, and during the rotation of uterus a large fibroid became enucleated. Doyen's forceps left on each uterine artery. The rest of broad ligament was ligatured with catgut, and iodoform gauze packed into cavity.

*After-treatment.*—Six hours after operation a slight hæmorrhage occurred (*i.e.*, 10 p.m.). Fresh dressings applied. Hæmorrhage checked. Hernia blocks used. Deep intramuscular injection of ergotin 1-50 gr. given. Forceps all removed thirty-six hours after operation. Patient dressed twice daily, and after first week douched out with dilute iodine and sterilised water. Patient made an excellent recovery, and left the hospital on July 4, 1898.

#### CYST IN TRANSVERSE MESO-COLON—CÆLIOTOMY—CYST REMOVED—RECOVERY.

E. F., aged 41, married. Admitted into hospital Sept. 28, 1898.

This patient was sent to me by Dr. Nichols. She had been operated on in May of this year at Johannesburg for supposed ovarian cyst. The abdomen had been gradually getting larger for some time. A week before she was operated on she had some pain in abdomen, but no collapse or hæmorrhage. In consequence of the tumour, which was said to be looked upon as ovarian, and the pain, an operation was recommended. On opening the abdomen it was found that the tumour was not ovarian. Patient was told it was seated behind intestines and not safe to be removed. On recovery from the operation her friends advised her to come to England to seek advice. On board ship she consulted

Dr. Nichols, who was a passenger, and he advised her to see me.

*Previous History.*—Three years ago had typhoid fever, after which no regular monthly period—always irregular; jaundice when a child. No children; no miscarriage; menstruation commenced at 18 years of age.

*Present Condition.*—Looks healthy; scar in middle line of abdomen, quite healthy, situated below umbilicus and pubes. Above the umbilicus and to its right is a rounded swelling, which moves with inspiration, not tender. The tumour extends two fingers' breadth below the umbilicus, resonant on percussion and somewhat tender. It is quite smooth and mobile. Vaginal examination reveals nothing. The diagnosis was probably hydatid of mesentery.

*Operation, October 11.*—Abdomen opened over tumour in right linea semilunaris. Tumour exposed lying behind the transverse colon in its mesentery. It was pulled out through the wound, and the peritoneum divided over it and the tumour, which evidently was cystic, was shelled out posteriorly fairly easily with the fingers. Anteriorly it was very adherent, and the peritoneum had to be very carefully snipped away with scissors. This was a tedious and somewhat difficult process. At its extreme base a very distinct pedicle was found, which was transfixed and ligatured. The peritoneal opening in mesentery was very carefully stitched up with continuous catgut sutures. The cyst when removed was about the size of a large kidney potato, and contained a quantity of yellowish fluid. Unfortunately, this was thrown away, and escaped examination, but apparently contained cholesterin, and was blood-stained. The capacity of the cyst might be from three to four ounces. The patient had a good night, and the bowels were opened the next day by the administration of five grains of calomel at night, and an enema in the morning. The patient is now quite comfortable the fourth day after operation, with a pulse 84, normal temperature, and no distension or nausea.

*October 22.*—The patient made an excellent recovery.

**CASE OF A CARCINOMATOUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY. Wolverhampton Hospital for Women.**

Under the care of Mr. F. EDGE, F.R.C.S.

The patient, aged 34, was curetted twelve months ago for metrorrhagia from an enlarged uterus. She was much better afterwards, and for six months went on well, when metrorrhagia returned. On examination the cervix was full of follicles, but no malignancy was suspected. Under treatment she improved for three months, but metrorrhagia returned, and she was admitted into hospital. She was anæsthetised, and the cervix was found friable to the curette. On examination the uterus was mobile, but a strand was felt in the left broad ligament like a parametritic band. Three days afterwards the uterus was removed by vaginal hysterectomy by ligatures. Five weeks afterwards patient well, but there is a growth in left broad ligament. The extension of the growth in the broad ligament is unusual so early, and the presence of a band, as found in this case, is often due to a secondary parametritis, and not to malignant infiltration.

Many cases in which the uterus is fixed and cannot be drawn down to the vaginal orifice are found to change after a week or two in bed, the secondary parametritic bands becoming soft and lax.

The operation, although perfectly successful in itself, has failed, since it has not attained its object—the removal of the whole malignant growth. But the patient will have less pain, and probably a less painful exitus.

**SOME MOOT POINTS IN THE AFTER-TREATMENT OF CASES OF ABDOMINAL SECTION. By CHRISTOPHER MARTIN, M.B.Edin., F.R.C.S.Eng. Surgeon to the Birmingham and Midland Hospital for Women.**

I propose to discuss, very briefly, certain moot points in the after-treatment of cases of abdominal section. On some questions it will be found that I am at variance with the

teaching of distinguished abdominal surgeons; on others, that I have seen reason to abandon or modify methods of treatment which I myself advocated six years ago.

*Prevention of Complications.*—The great aim of the surgeon should be to prevent the occurrence of complications—rather than to treat them after they have arisen—by the careful preparation of the patient beforehand, by the skilful performance of the operation itself, and, above all, by the attainment of perfect asepsis. Prevention is ever better than cure, and an extra half-hour's work before an operation is worth a week of anxious after-treatment.

It is a wise rule in abdominal surgery, as in other mundane affairs, to let well alone. If the case be progressing favourably, if the patient have no bad symptoms, be content, be thankful, and avoid fussy interference. You can hardly make her any better, and you *may* make her a good deal worse.

*Posture.*—Some surgeons unnecessarily restrain their patients after operation as regards position. They keep them rigidly on their backs for forty-eight hours, not even allowing the nurse to turn them gently on to the side. This restriction is cruel and needless. I let my patients then lie in the attitude that is most comfortable to them, and allow the nurse to turn them from time to time.

It is not necessary to cover the abdomen with a cradle, though it does no harm.

*Dressings.*—The dressings should be of a simple character. I cover the incision with a pad of iodoform gauze. Over this a square of Gamgee tissue is laid and fixed with three or four bands of rubber plaster. Over all an ordinary abdominal binder is pinned. The gauze should be changed at the end of twenty-four hours, and after this it need not be disturbed for a week. The aim should be to keep the wound as dry and clean as possible. Wet dressings are an abomination; they simply promote suppuration. At one time I used to dust my wounds with boracic acid powder or iodoform powder; but I do so no longer, except in septic

wounds, when I use iodoform freely. Powders are apt to form unpleasant crusts or cakes which delay the healing process. For similar reasons I dislike the plan of sealing the incision with collodion.

*Sutures.*—For suturing the abdominal wall I think silkworm gut an ideal material. I do not like buried sutures, and therefore never now suture the abdominal wall in layers. Catgut, even if aseptic, dissolves too soon, and silk, no matter how carefully sterilised, is apt to become infected, and cause abscesses and sinuses. I have tried buried sutures of silkworm gut; but found that the wire-like ends pricked and worried the patient, and the sutures frequently worked out, months after the operation, by a process of quiet suppuration. I now invariably use silkworm gut, applied as an interrupted suture passing through the whole abdominal wall. I leave the stitches in for twelve or fourteen days, and sometimes longer. It is a great mistake to remove the sutures, as some surgeons do, as early as the sixth day. I have seen a long abdominal wound, which was healing by first intention, burst open, during a fit of coughing, from top to bottom a few hours after the stitches had been removed on the sixth day. The longer the wound, and the more likely the patient to vomit or cough, the longer should the sutures be allowed to remain. Stitch abscesses ought never to occur in a clean case. The more strict my antiseptic precautions the more rarely do I see a stitch abscess. Still, they do occasionally occur. If only one stitch suppurate I remove it at once. If all the stitches suppurate I remove those which are the worst. If all be equally bad I remove alternate stitches, leaving the others in for two or three weeks to support the wound during the process of granulation.

*Drainage.*—Five or six years ago I used the drainage tube much more frequently than I do now. Then my rule was, "When in doubt, drain." Now it is, "When in doubt, don't drain." I drain in septic and suppurating cases or where there is much bleeding. But I do not consider that



a little clean blood or ovarian fluid in the abdomen does any harm—in fact it may, on being reabsorbed, have some nutritive value. A drainage tube is apt to be a channel of infection, and may convert an innocuous effusion of blood into a stinking collection of grumous pus. When I have to drain, I prefer iodoform gauze to the glass or rubber tube, and if possible I drain through the vagina (posterior fornix). The glass tube quickly becomes shut off by lymph from the general peritoneal cavity and then ceases to be of any service. Moreover, if either a tube or a gauze drain be left in the abdominal wall more than forty-eight hours the track is apt to heal by suppuration, a weak spot is left in the abdominal wall, and a ventral hernia will probably result. I have seldom, on the other hand, seen any harm result from a vaginal gauze drain.

*Morphia.*—I always give a dose of morphia at the close of an abdominal section, either hypodermically ( $\frac{1}{4}$  gr.) or by suppository ( $\frac{1}{4}$  gr.), and I am sure it does good. It diminishes restlessness, combats shock, tides the patient over the first few hours of agony, lessens the tendency to hæmorrhage, and in many cases lessens the tendency to vomiting. This single dose of morphia is not sufficient to paralyse the bowel or to interfere with the purgative treatment of peritonitis should this complication subsequently occur.

I have also seen morphia do good in those anxious cases where, some three or four days after the operation, the patient is worn out with frequent vomiting, pain, and want of sleep, and is getting into a condition of dangerous prostration and restlessness. I am aware that in such cases there is generally some degree of peritonitis, and, therefore, it would seem that morphia were contra-indicated. If, however, I have got the patient's bowels to act freely, I give morphia. I do so, I admit, with some fear and trembling, feeling that the morphia will either kill or save the patient. But in the great majority of cases I have been delighted with the beneficial result. The patient sleeps, the vomiting

ceases, the pulse becomes slower and stronger, the prostration passes off—in fact, the administration of the morphia marks the commencement of her recovery.

*Purgatives.*—Now, it must not be supposed from the above that I have abandoned the purgative treatment of peritonitis and have reverted to the old opium treatment. If a patient after, say, an ovariectomy, develop on the second, third, or fourth day the well-known symptoms of peritonitis (vomiting, tympanitis, quick pulse, anxious face, dry tongue, &c.), I at once give her five grains of calomel, and follow it, in the course of two or three hours, with a sharp saline purge (sulphate of soda, or a Seidlitz powder). In mild cases I give repeated small doses of calomel ( $\frac{1}{16}$  grain every hour) until the bowels act freely. Where there is constant retching, these small doses of calomel are generally retained, while the saline draught is at once ejected. In addition I order a turpentine enema to be administered every four hours, and the flatus tube to be passed frequently. The patient's strength should be maintained by nutrient enemata of brandy and beef-tea (each nutrient enema being given an hour after each turpentine enema). If she be much exhausted I give champagne freely by the mouth. Even if she be vomiting it is less exhausting for her to have something in her stomach to bring up than to retch ineffectually. There can be no doubt that, in an ordinary case of post-operative peritonitis, if we can purge the patient she will probably recover, whilst if the bowels refuse to act she will probably die. As long as her pulse is maintained we should persevere with the calomel and enemata until her bowels move. It is marvellous how tolerant these patients are of big doses of calomel frequently repeated.

What is the explanation of the beneficial action of purgatives in peritonitis?

- (1) They withdraw fluid from the congested portal veins, and so promote absorption of intraperitoneal effusions.
- (2) They probably modify the functions of the liver in such a way that it is enabled to better cope with and destroy

the poison absorbed from the peritoneum. One function of the liver seems to be to prevent the passage into the general circulation of toxins absorbed either from the intestine or peritoneum: the liver cells either destroy these toxins or excrete them in the bile.

(3) Purgatives mechanically remove these excreted toxins from the intestinal canal.

(4) Calomel probably acts in some degree as an intestinal disinfectant, inhibits the formation of flatus, and possibly exerts a restraining influence on the development of micro-organisms in the peritoneum.

(5) Purgatives, by stimulating peristaltic movements, combat the tendency to paralysis of the bowel, diminish the tendency to intestinal adhesions, and mechanically remove flatus.

Some surgeons, impressed with the beneficial effect of purgatives in peritonitis, have gone to extremes, and have made it a routine line of treatment to purge every patient on the second day after an abdominal section. This is unnecessary. If the patient have no bad symptoms, no distension, no sickness, &c., there is no need to worry her with purgatives and enemata. If she be doing well we need not bother about the bowels till the fourth day, when, if they have not acted naturally, she may have a saline aperient, a dose of liquorice powder, or an enema.

*Dietary.*—In 1892, in my little book, "On the After-treatment of Cases of Abdominal Section," I wrote as follows:—"For forty-eight hours after the operation the patient must be starved and not allowed to swallow even a spoonful of water. She suffers cruelly from thirst, but this enforced abstinence from fluids is very beneficial." "Thirst is a symptom far more constant and distressing than pain. It comes on shortly after the operation, and lasts for two or three days. In some mysterious way the mere opening of the peritoneal cavity—as in an exploratory incision—induces a terrible thirst, and this is aggravated by the forty-eight hours' enforced abstinence from fluids. Where there has been much loss of blood it is very marked indeed."

I am glad to say I have satisfied myself that this forty-eight hours' deprivation of fluid is not only cruel but unnecessary and harmful. I now seldom keep a patient more than six hours without fluid. I start by giving her some bland fluid such as barley water flavoured with lemon, and of this I allow a pint during the first twenty-four hours. In cases where there has been much loss of blood I give it very freely—one of my cases took half a gallon during the first day with marked benefit. Even if the patient be sick I give her barley water, as it is less distressing to her if she has something to vomit than to retch ineffectually.

I never give ice to patients after abdominal section.

I am satisfied that this early administration of fluid is not only merciful, but does good. It diminishes shock and restlessness, fills the depleted blood vessels, and by washing out the kidneys, helps to remove toxins from the system. It does not interfere with action of purgatives, should peritonitis ensue.

On the second day, in addition to barley-water, I allow milk, milk and soda, tea, water gruel, or small quantities of beef-tea or chicken broth. On the third and fourth day she is allowed milk pudding, on the fifth day fish, and on the sixth day a little boiled chicken.

In cases of persistent vomiting, shock, hæmorrhage, or exhaustion, I give champagne freely by the mouth, and brandy and beef-tea enemata. In grave cases I have found enemata of hot salt water (one drachm of common salt to the pint) and injections of saline solution into the submammary cellular tissue of very great value.

*Vaginal Sections.*—A few words on the general treatment of vaginal sections may not here be out of place. The vagina is packed moderately firmly with iodoform gauze, and in vaginal hysterectomies the upper end of the gauze is passed into the peritoneal cavity. I usually remove the gauze packing on the seventh or eighth day, by which time the general peritoneal cavity is securely shut off by lymph from the vaginal canal. If the gauze be removed too soon,

there is some danger of prolapse of the intestine or omentum into the vagina. For the first four days after a vaginal section, it is advisable to draw off the patient's urine by the catheter; after that she is allowed to pass it naturally. Before and after each act of micturition or each passage of the catheter, the vulva should be gently bathed with a 1 in 2,000 corrosive sublimate solution, or some other reliable antiseptic. I need scarcely say that the catheter (preferably of glass) must be kept scrupulously aseptic. The only dressing that need be applied to the vulva is a pad of Gamgee tissue, freely dusted with iodoform. For at least a week after the gauze packing has been removed, I do not allow the vagina to be douched, for fear of breaking down the protective barrier of lymph, and forcing the discharges into the peritoneum. In cases of vaginal hysterectomy I use silk ligatures, and I leave them long. They act as a drain, and usually separate about the third week. If by the end of the fourth week they have not separated, I cut the loops with scissors and remove them. Otherwise the knots are apt to become firmly embedded in the vaginal cicatrix, and, as long as they remain, cause an annoying purulent discharge.

*Date of getting up.*—If a patient, who has undergone either an abdominal or a vaginal section, have recovered without any complication, she may sit up in bed on the fourteenth day, get out of bed on the fifteenth or sixteenth day, and (if in hospital) go home during the fourth week.

*Belt.*—Patients who have undergone abdominal section should wear a well-fitting belt for at least two years after the operation, otherwise a hernia is very apt to form. I am aware that more than one distinguished abdominal surgeon has denounced the belt as tending to cause atrophy of the abdominal muscles. Personally I do not think for one moment that it does; but even if it were so, a somewhat weak abdominal wall is better than a ventral hernia.

In conclusion, I would point out that no hard and fast rule can be laid down which applies to all cases. Every

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case must be treated on its merits. The age, strength, habits, and temperament of the patient, the co-existence of other diseases, the character of the operation and the special complications met with during its performance, must all be borne in mind and duly considered in deciding on any special line of after-treatment.

The discussion on this paper was adjourned, owing to the late hour, till the following meeting.

**EDITORIAL.**

Dr. CHRISTOPHER MARTIN has written us with regard to an Editorial Note which appeared in the August number of the Journal. We quite understand his wish to prevent any misconception about certain statements included in his Paper on the Gynæcological work in Birmingham, and have therefore no hesitation in quoting from his letter. We feel sure that those who know Dr. Martin and are familiar with the excellent work done at this particular Women's Hospital, would not put any construction on his statement to which the Committee of the Hospital could take exception.

Dr. Martin says : " In my *résumé* of gynæcological work in Birmingham in 1897, I stated that the In-patient Department of the Women's Hospital was 'an old-fashioned farmhouse . . . altered and enlarged . . . and ill adapted to the work it is called upon to perform.'

" The Committee of the Hospital have taken exception to this latter statement, being of opinion that some readers might connect the construction and adaptability of the hospital with the causes of mortality, which are fully considered later on in the same paper. I desire to state as clearly as possible that I do not in any way connect the death rate with the adaptability or otherwise of the building—having no reason to suppose that the mortality would have been less in a modern hospital. The expression 'ill-adapted' was intended to be descriptive only, and to convey the idea that old-fashioned altered residences cannot be administered as conveniently as specially built hospitals, an argument which I think the Committee may use with advantage whenever the question of rebuilding arises."

ORIGINAL COMMUNICATION.

EXTRA-UTERINE PREGNANCY.<sup>1</sup>

By JOHN W. TAYLOR, F.R.C.S.Eng.

(Continued from page 261.)

LECTURE III.—ON THE DIAGNOSIS AND TREATMENT OF  
EXTRA-UTERINE PREGNANCY.

*Diagnosis.*

MR. DEAN AND GENTLEMEN,—When extra-uterine pregnancy is present and has by its symptoms driven the patient to seek for advice, at every stage—up to “term” with death of the foetus—there are certain indications to be derived from history, symptoms, and physical signs, which are sufficient in most cases to establish a correct diagnosis. In my own series of 37 cases a correct diagnosis was formed in 27 cases. In one case (the first case) no diagnosis was made. In 3 cases the diagnosis was made of tubal disease only. In 2 cases the diagnosis was made of myoma. In 4 cases the diagnosis was made of ovarian cystoma. Three of these were instances of ovarian cyst complicated by the co-existence of tubal pregnancy, and in one of these an alternative diagnosis was recorded of ovarian cyst or tubal pregnancy. In only three of the cases was the diagnosis absolutely mistaken, and in two of these, and even in some of the cases of imperfect diagnosis, I think it may be said with perfect truth that the fault was my own, and that imperfect knowledge, carelessness, or some false suggestion at the outset was responsible for the blunder.

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<sup>1</sup> Ingleby Lectures for 1898.



The omissions or mistakes which I have just enumerated are necessarily confined to cases on which I have operated. I believe I know of 2 other cases in which I did not fully recognise the condition and therefore failed to do my duty. The one was a case of diffuse hæmorrhage—probably from early rupture of the tube. The patient was quite pulseless when I was called to her, and although there was some history of delayed menstruation I could not find on examination any pelvic tumour or physical sign pointing to a misplaced pregnancy. I did not know at that date that in some cases of very early rupture this may be entirely wanting. I was uncertain and the possible moment for action was lost. The other case was one of early tubo-ligamentary pregnancy. The patient was herself suspicious that something was not right about her pregnancy and asked my opinion. After careful bimanual examination I came to the conclusion that the pregnancy was intra-uterine and normal and reassured the patient. Some nine or ten months after this I found that the time for confinement had been passed without result, and that one of my colleagues had operated on the patient, removing a dead foetus from an intra-peritoneal sac which was exactly similar to those I have described as posterior ligamentary or retro-peritoneal. It is worthy of notice that the only case of this kind which figures in my own series (No. 4) had been seen at an early stage of the pregnancy by the same colleague, and had been considered by him to be intra-uterine and normal. There is probably some good reason for the occurrence of the same mistake in the practice of two surgeons, both of whom have had special experience of extra-uterine gestation. Again, my operation list does not of course contain any case in which I have diagnosed an extra-uterine pregnancy and found a different condition. Four of such mistakes I can remember. One was a case of retroflexion of the gravid uterus with intra-peritoneal adhesions. This occurred very early in my practice. Two were cases of double pyosalpinx with temporary cessation of the menses ;

the other case was one of malignant tumour of both ovaries. In this case also there was consequent amenorrhœa. Other cases in which an alternative diagnosis was made or in which the possibility of extra-uterine pregnancy was entertained will be referred to under "differential diagnosis." Finally, I have to add to my list of successful diagnoses some six additional cases of extra-uterine pregnancy in which the operation was performed by another surgeon. In one of these cases a tubal pregnancy of one side was complicated by a pyosalpinx of the opposite side, the only instance in my own practice in which I have found tubal pregnancy and suppurative salpingitis directly associated. As subsidiary material helping to form my experience I have also to add nearly 50 cases of extra-uterine pregnancy which I have watched during the last fourteen years in the practice of my colleagues.

In considering both the diagnosis and the treatment of extra-uterine pregnancy I shall follow as nearly as possible the divisions already framed when dealing with its pathological history. Our first consideration, accordingly, will be the diagnosis of a case of earliest rupture of the tube with diffuse hæmorrhage. The patient is probably a married woman and one who, of course, must necessarily be within the limits of the child-bearing period. She has probably been in perfect health until an hour or so ago. She was then suddenly seized with a pain in the abdomen, "as if something had given way inside her." She became faint and collapsed, was sick and lay down on the couch or was assisted to her bed. She was given a little stimulant, and for a few minutes felt perhaps slightly better. On reflection the attack did not altogether surprise her. Her proper menstrual period was due last week, but instead of coming on as usual was delayed for some days (an uncommon occurrence for her), and during the last three or four days, although there has been some discharge of blood from

the vagina, which for an hour this morning was quite profuse, the period has not come on "properly" or in a customary manner. Such, or something like it, is the history. On glancing at the patient the observant practitioner will probably notice at once the paleness of her countenance and lips and her seriously "passive" expression. This can only arise from simple faintness with but little or no loss of blood, or from active hæmorrhage. The pulse will decide it. If from simple faintness, although it may be temporarily lost, or difficult to find, the pulse when felt again will be found to be slow and moderately full, while if hæmorrhage be still in progress the pulse increases in frequency as the hæmorrhage proceeds, and after a time becomes perceptibly weaker. Perhaps the normal pulse rate is known, and if so it will be found that it is twenty or thirty or forty beats to the minute faster than is usual, and that the ratio is still increasing. This is obviously not due to nervousness or excitement, for the patient is curiously self-contained and quiet. Every now and then the pulse becomes fluttering and difficult to count, and at these times there is usually some nausea and vomiting. Between these periods of extra faintness it may temporarily improve in quality, but its rapidity does not diminish so long as the bleeding is unchecked. The temperature is sub-normal. If the hæmorrhage continue unabated a colder greyness slowly creeps over the countenance, the voice becomes feeble, the sight is dimmed, the fingers become white and rather cold, and the patient now speaks but little or only in answer to direct questions. Still, however, the mind remains clear and the patient is often acutely observant of all that passes around her. I have known a patient in this condition, rescued from imminent death by operation, speak afterwards of several things connected with her operation of which at the time it was thought she was practically unconscious. It is needless to try to trace the symptoms any farther—the patient is dying—and if anything is to be done to save her life it must be done at once.

In some of the worst cases (the symptoms of which I have been attempting to describe) there are no pelvic or abdominal signs of any definite importance or certainty. The hæmorrhage may come from a very little swelling near the cornu of the uterus, and if the latter be inclined to retrovert the tubal swelling may be inaccessible. The blood is fluid; it is continually pouring or dribbling into the abdomen, and the patient never has vitality enough for any kind of inflammatory reaction. In addition, the patient may be stout, the abdominal parietes thick, and a satisfactory bimanual examination be altogether impossible. Then without any sign directly pointing to the tube the symptoms of internal bleeding must be our ground for action. Fortunately, however, in the majority of cases, there is additional, and sometimes abundant evidence to be obtained by careful examination. Sometimes a tumour is to be distinctly felt at one side of the uterus—sometimes a “decidua” has been passed *per vaginam*; usually the pouch of Douglas may be felt distended by blood-clot, the sensation of an ill-defined but full and boggy swelling being communicated to the finger of the examiner. In one case I detected absolute fluctuation of the blood through the abdominal walls before opening the abdomen, and other indications of blood in the abdomen may be elicited by percussion—dulness in the flanks very slowly changing with changes of position (Mayo Robson)—while in all cases which survive the first few hours, and in which the bleeding is temporarily checked, there is difficulty in the passage of flatus and motion—the patient suffers from considerable abdominal pain, and, in short, the signs are present of peritonitis as well as those of recent hæmorrhage. In these cases it is but very rarely (if ever) that any evidence pointing to pregnancy is to be obtained from the condition of the breasts or areolæ, or from the sensations of the patient. These are always feeble and more often wanting in the early stages of extra-uterine pregnancy, and any search for them with reliance on their importance will probably

increase doubt at a time when certainty and action are of the utmost value.

Now as to differential diagnosis: in a case of early rupture with diffuse hæmorrhage the symptoms are so notably sudden and instant in their origin that there is but small danger of any other affection being suspected save those of similar acuteness. To one unversed in gynæcological disease the idea of poisoning is apt to come uppermost. Gastric or intestinal perforation from ulcer of the stomach or acute appendicitis may also be suspected. In all of these there may be the same sudden onset, but except as a curious and improbable coincidence there would not be the contemporaneous presence of an irregular blood-discharge from the vagina, and the history, however poor, of some delay in the appearance of the period. In all of these, too, the immediate pain and distress are much more violent than in hæmorrhage, while in gastric perforation (which usually occurs in young unmarried women) and in acute appendicitis there are antecedent symptoms or attacks which point to the stomach or the appendix as the source of trouble. As a matter of fact the question of these diseases has occurred to those concerned rather as *post-mortem* doubts and fancies after the patient has died than as serious diagnostic difficulties during life. The chief danger of the practitioner in my own experience has been to underestimate the importance of the condition before him. The medical attendant has been unaffectedly surprised at the consultant's diagnosis, and in one case he was evidently incredulous until the blood was pouring out of the opened abdomen. It has been the difficulty of making any diagnosis at all rather than the making of a wrong one which has usually been the stumbling-block, and in two of my cases a physician was the first consultant who was sent for. In both of these cases I am happy to say the condition was recognised by the physician, and the surgical interference recorded was the result of his diagnosis.

Our next consideration is the diagnosis of an unruptured

tubal pregnancy, of tubal mole and of peri-tubal hæmatocele. In the preceding section, when dealing with early rupture and diffuse hæmorrhage, we found that of the three chief factors which go to form the diagnosis, the symptoms—symptoms of internal abdominal bleeding—were on the whole the most reliable, that the history was of next importance, and that the physical signs of any tumour (although of the utmost value when present) were uncertain and might be practically wanting. As we proceed with our subject and discuss later and still later developments of extra-uterine pregnancy we shall find both history and physical signs increasing in value, and it is to these, therefore, that we shall mainly direct our attention ; but at all the stages referred to (except the very latest) diffuse internal hæmorrhage may intervene and add its special signs and symptoms to those already present.

The previous history of the patient—the history before the pregnancy begins—is of some importance. There is a certain amount of well-being of the genital organs which is probably necessary for conception to take place, and in any case of pregnancy, whether uterine or extra-uterine, the patient has usually been moderately well and free from any marked pelvic trouble immediately before the act of impregnation. This period of ante-pregnant or ante-amenorrhœal well-being, which is of little or no importance in normal pregnancy, is worthy of special attention when there is a possibility of misplaced pregnancy, because the tumours with which this is liable to be confounded have usually some history of illness rather than of health immediately preceding their formation. Again, in rather more than half the number of cases of extra-uterine pregnancy several years have elapsed since the last normal pregnancy took place, and although the absence of this interval is of no diagnostic significance (as the accompanying tables will show), its presence in a suspicious case may be held as slightly increasing that suspicion, and as being in accordance with the history of other recorded cases.

From the consideration of these two points we pass on to the history of the pregnancy itself. It is obvious that as the duration of the pregnancy increases so must its history be traceable for longer and still longer measures of time, and the chief sign which marks this is the absence of the normal menstrual period—not necessarily the absence of all sanguinolent discharge, but the absence of the normal period in its usual course. Some critical discrimination is often needed in order to arrive at a just conclusion on this point. For instance, in tubal mole (as I pointed out in 1894), there is often no definite history of amenorrhœa—that is, the patient has never gone “over her time” without vaginal loss, and if carelessly questioned, such a patient will probably answer that she has been “regular” throughout, but that the present period is unusually protracted. On closer inquiry (of the same patient) we may, however, probably elicit the fact that the hæmorrhage which has been taking place during the last three or four weeks is very different in character from that of a normal menstrual period, and the patient has no difficulty in fixing a date some seven or eight weeks previously when she was last “properly poorly.” Dr. Cullingworth has recently drawn attention to the characters of the hæmorrhage observed in this condition. He writes: “The blood is almost invariably dark in colour, moderate in amount, thickish in its consistence, and steady in its rate of flow. Gushes of bright red blood occur occasionally, but are quite exceptional.” I should myself be inclined to question the final statement. Nearly all the cases I have met with possess some history of repeated sharp hæmorrhage.

This occurs at irregular intervals, and is often copious enough to be spoken of as “flooding” by the patient, it is, however, of short duration, and the bleeding between the attacks of metrorrhagia is usually very much as Dr. Cullingworth has described it.

If we add to this that the hæmorrhage is very persistent, and that it may carry with it some shreds or portions of

decidual membrane, all its special features have been noticed. Apart from the presence of decidua the most practical point, in my opinion, is the contrast often afforded by this bleeding to the normal bleeding of the menstrual period in the same individual. The type of menstruation often varies but little for years together, and it is very rare that an intelligent patient is unable to detect the difference. Amenorrhœa, then, together with or followed by persistent dark-coloured uterine bleeding of moderate amount, varied by irregular metrorrhagia, is almost always met with. The hæmorrhage is usually due to some separation of decidual membrane from the interior of the uterus, and is, moreover, a sign that the vitality of the pregnancy is endangered or destroyed. So long as the pregnancy—although out of place—is growing and uninjured, there is, as a rule, no uterine bleeding. If the decidua be shed it does not follow that the bleeding ceases. Hæmorrhage continues from the interior of the uterus, while the abortive pregnancy remains as a source of irritation within the tube, and in some cases at least I have very little doubt that the hæmorrhage comes directly from the tube—the tube containing the mole of pregnancy—bleeding alike into the uterus by its open uterine end and into the pelvis by its open fimbriated end.

We now pass to the physical signs elicited by examination of the patient. When dealing with the pathological history of tubal pregnancy I noticed that one of the earliest and most marked phenomena attending its presence was the increased vascularity of the parts affected. There is a sign, a very constant and valuable one, accompanying this—the presence of pulsating vessels in the vaginal vault on the affected side. All the branches of the uterine artery are subject to very marked enlargement on the side of the pregnancy. It is often easy to touch a vessel the “pulse” of which is very comparable to that of the radial, and, although inflammatory affections may sometimes give rise to very similar hyperæmia, the pulsation of the vessels is rarely so marked and so easy to elicit as in tubal pregnancy.



The next point is the finding of the extra-uterine tumour. If we turn to the sequence of illustrations which I used when describing tubal mole and peri-tubal hæmatocele,<sup>1</sup> we shall at once recognise the leading features to be determined (if possible) by vaginal and bimanual examination. There is the tubal tumour caused by the misplaced pregnancy, its size, shape, position, and mobility, and there is the displacement (if any) of the pelvic viscera caused by its growth. When hæmatocele forms there may be the opportunity perhaps of following the alteration in the tumour produced by hæmorrhage—in watching the change from mobility to fixation, the rapid lateral and upward growth of the blood-mass, and the change from the insensitive little tubal tumour of the healthy and unruptured pregnancy to the acutely tender and extending hæmatocele. For at first, when the pregnancy forms within the tube, there is no pain or tenderness, and it is only by accidental good fortune that the opportunity arises for an examination under these conditions. In one case seen by me at this stage the patient had nothing to complain of except amenorrhœa of five or six weeks' standing, but to one side and behind the uterus a little movable tumour was plainly felt which, by its shape and its contiguity to the uterus, suggested a tubal rather than ovarian origin. Another observer describes the tumour under these conditions as "sharply limited from the unaltered part of the tube, as closely corresponding to the size of the ovum, and as elastic but yielding." (Winter.)

Later, if bleeding occurs within the tube its enlargement is not limited to the site of pregnancy, but the whole of the tube becomes distended, and this is the stage when the diagnosis of the tumour is attended with least difficulty. The tube is not only distended but hard, its sinuous curves are easily followed, its tubal or "sausage-shaped" character is readily ascertained, and if the hæmorrhage be limited to the interior of the tube and no blood as yet has invaded the

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<sup>1</sup> *Vide* figs. 8, 9 and 10, BRIT. GYN. JOUR., May, 1891.

peritoneal cavity, there is still but little or no tenderness, and a full examination may be made without difficulty or pain. The following illustration (fig. 1) will, perhaps, convey better than words can do what may be felt under such conditions by vaginal touch and bimanual examination. It also indicates the usual limitations to complete investigation. The uterus is inclined to retroflexion; its highest part can, perhaps, be felt bimanually, but whether this be fundus or the upper portion of the anterior surface is probably uncertain. Behind the cervix a sausage-like

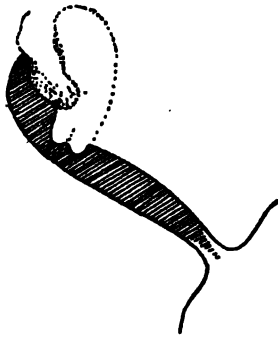


FIG. 1.

tumour is plainly felt closely applied to the back of the uterus and probably adherent to it. In some cases it seems to partially encircle the uterus like a collar. One curve of it is thoroughly felt, and above this the beginning of another is just accessible. Beyond this point any further investigation by ordinary vaginal or bimanual examination may be impossible. Rectal examination will afford larger and higher opportunities, but this is inadvisable except in cases of serious doubt and difficulty when the patient remains under the personal observation of the surgeon.

While the foregoing is a fair description of the tumour very generally found in cases of extra-uterine pregnancy, it by no means follows that the tumour, or any tumour, is

always met with in this situation. Sometimes the pregnant tube is altogether on one side of the uterus, the pouch of Douglas being quite empty, and when the uterus is much retroflexed the tumour may even be found in the front half of the pelvis, the pregnancy lying altogether anterior to the uterus. In this situation the tumour is very accessible to the bimanual examination provided the bladder be empty. (The use of the catheter is always an important preliminary to a thorough examination of the pelvis.)

It might easily be supposed that, as hæmorrhage took place into the pelvis and the original distension of the tube was supplemented by the formation of a hæmatocele, so the resulting tumour would become increasingly prominent and more easy of diagnosis. But it is not so. With every bleeding into the peritoneal cavity there is pain, there is some collapse, and there is abdominal tenderness persisting for many days. The slightest pressure is objected to, the abdominal muscles are contracted, deep palpation is impossible, and any attempt at bimanual examination is apt to be most unsatisfactory. Furthermore, it will often be found on vaginal touch that the clearly-defined outlines of the tube are obscured or even lost in the swelling of the hæmatocele. There is evidently a tumour present, and it appears to be connected with the Fallopian tube, but its upper limit cannot be palpated from the abdomen, and its exact size and boundaries are uncertain. Here the displacement of the uterus, if definite and permanent, will afford valuable evidence as to the size of the swelling which causes the displacement. A little later, if the hæmorrhage is repeated and the hæmatocele increases, we find the upper limit of the swelling appearing above the pubes. In spite of the pain and abdominal distension there is then no difficulty in ascertaining the full extent of the tumour. Above one groin we usually find the convex outline of the mass arising from below. It is lateral, fixed, tender, and bulging, and may be conveniently represented in the usual way by the accompanying outline illustration (fig. 2). The

convex upper border of the mass is well marked. It is sometimes visible, it can be felt on gentle palpation, and tends to extend in an increasing curve towards the umbilicus. Below this line the percussion note is dull; above it the adherent and probably distended intestine marks a clearly defined area of resonance. This applies to the central portion of the curve; each end of it shades off into inaccessible regions—on the one side toward the loin of the affected side, on the other beneath the pubes.

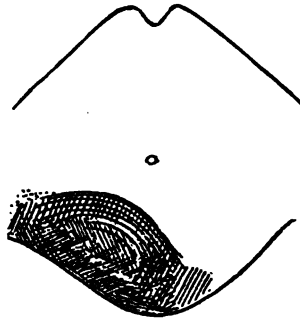


FIG. 2.

Examined bimanually the abdominal mass above the groin is felt to be one with the tubal tumour in the pelvis, and the displacement of the uterus to the non-affected side (which is now extreme) is marked and unmistakable. This tumour, which is usually characteristic of the advanced development of intra-peritoneal hæmatocele, the result of bleeding from the unruptured tube, and which then is produced somewhat slowly or after repeated hæmorrhages, may also be more suddenly formed by later rupture of the tube; and, so far as physical signs are concerned, there is no essential difference in the resulting hæmatocèles. The same description will accordingly apply to both formations.

Very similar, too, is the tumour formed by an intra-ligamentary pregnancy about the fourth month when the pregnancy is of the anterior or sub-peritoneo-pelvic variety.

There is no difference except that the uterus is liable to be raised as well as displaced to the opposite side by the growing pregnancy, and that in this case one is more liable to meet with the signs of a fixed iliac tumour growing into the abdomen above the groin without any symptoms of internal hæmorrhage, because under these circumstances the pregnancy may be uninterrupted by accidental changes. Frequently, however, disturbances do arise, and then no differential diagnosis between the two hæmatoceles is possible until the abdomen is opened.

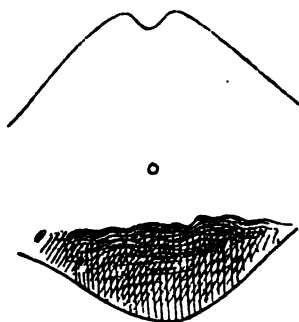


FIG. 3.

The only other tumour needing consideration at this stage is that of the typical retro-uterine hæmatocele when the pouch of Douglas is acutely distended, its opening above into the peritoneal cavity being temporarily occluded. The condition occurs but rarely as the result of tubal bleeding (an example is afforded by Case 2), but when it does take place the signs—both abdominal and pelvic—are very different; from those I have already described. In the (two) cases I have seen the upper limit of the blood-mass was readily felt from the abdomen, but instead of being lateral, convex, and bulging, it simply formed a hard, irregular wall or line stretching right across the abdomen, midway between the pubes and the umbilicus, the abdomen below this line being uniformly hard and dull with coagu-

lated blood (fig. 3). The active, growing, bulging pole of the tumour in this hæmatocele was transferred (as it were) from the abdominal to the pelvic aspect. The abdomen was quiescent ; the pouch of Douglas was acutely distended. With one finger in the vagina and the other in the rectum the tense elastic swelling of the over-filled pouch could be thoroughly appreciated, bulging between the two. The leading features of this hæmatocele are well represented in the following illustration (fig. 4). The small intestines

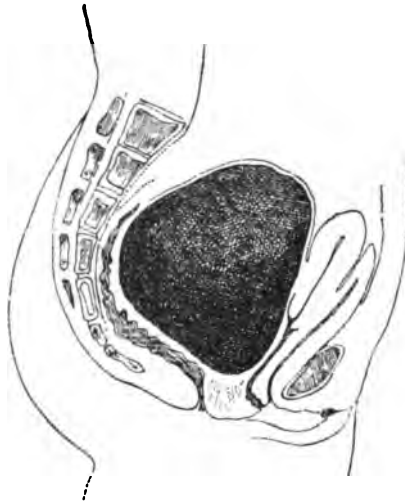


FIG. 4.

lie across and somewhat flatten the upper boundary of the blood-mass, while the fold of peritoneum between the vagina and rectum is transformed into a large sac full of blood and serum.

The next point is the determination of the size, position, and contents (if any) of the uterus. The uterus is nearly always slightly enlarged, the enlargement bearing a strong resemblance to that of the sub-involved uterus after confinement, and having but little in common with the broad

and succulent enlargement of the pregnant organ. It is slightly thicker and longer than normal, as a bleeding uterus generally is, but the cervix is not specially soft and yielding, and if this be followed up by the finger beyond the vaginal reflexion and the tumour of the extra-uterine pregnancy or hæmatocele be encountered in its (close) relation to the



FIG. 5.—The tumour and the uterus in close relation.

uterus somewhere in the pelvis, the cervix may often be followed beyond and above the lower limit of the tumour and the uterus may be felt something like a finger fixed to one side of the tumour (figs. 5 and 6). We have already traced the early tendency of the uterus towards retroflexion and its later displacement to one side of the pelvis. Generally with the larger hæmatoceles produced by recurrent

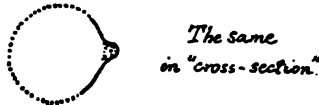


FIG. 6.— The tumour and the uterus in cross section.

bleedings, and always in true retro-uterine hæmatocele, which we have just been considering, the uterus is strongly displaced forwards. When the pouch of Douglas is excessively distended it may also be carried upwards so that the cervix is difficult to reach. The exact position of the fundus and the emptiness or non-pregnant state of its cavity are very important, and sometimes very difficult, points to determine, but they must be decisively settled before any operation is undertaken. On careful bimanual examination, if (as already described) the supra-vaginal cervix has been

traced upwards by the examining finger from below, the direction of the uterus is followed as far as possible, and the probable situation of the fundus—toward the front or the side of the pelvis—is definitely determined. Then, if the hand on the outside of the abdomen be carried to this point the fingers of the outside hand may often be gently pressed down on the summit of the fundus in spite of the larger displacing tumour of the pregnancy, and the whole of the uterus may be accurately mapped out (bimanually) by the fingers. Sometimes the conditions—the co-existence of peritonitis and abdominal distension—make such examination an utter impossibility, and then it may not only be allowable, but necessary, to pass the uterine sound in order to come to a certain conclusion. Both the passage of the sound and rectal examination should, however, be left to the discretion and use of the operating surgeon. All other reasonable methods for determining the condition of the uterus should have been previously used, and the same delicate gauging of the probable position of the fundus and direction of its cavity as that already described should precede the final determination of the curve of the sound and of the passage of its tip within the external os.

We have now concluded the examination of the patient, but we have still to consider the symptoms which accompany intra-peritoneal bleeding and hæmatocele. Some have been incidentally referred to, such as abdominal pain and tenderness, distension, and rigidity of the abdominal muscles. The characteristic features of these symptoms, as also of the collapse and faintness and vomiting generally accompanying them, is that they come on suddenly because they are directly due to the bleeding, and if the bleeding be slight or moderate they rather quickly diminish in intensity or entirely disappear. For instance, a patient suffering in this way may feel perfectly well all day, be attacked with sudden violent pain at 11 p.m., feel seriously ill for half the night, have a good sleep towards morning, and be attending to her usual household duties in the course of the



following day. These attacks, in the same way as the bleeding which we have studied before, are almost inevitably recurrent, so that in a large number of cases treated by operation we have a clear history of three or four attacks before the abdomen is opened. The suddenness of these attacks is very frequently surprising to the patient herself. One of my patients in whom they occurred during the daytime, gave a history of a fall with each attack, evidently supposing that the pain from which she suffered was the consequence rather than the cause of the fall in each case. Some of the remarks of the patients are as follows:—"I was suddenly seized with pain on the left side of the belly, in the back, and in the thigh. I was bent double with it." "I was seized with sudden pain in the lower part of the stomach soon after getting out of bed.", "I was seized with sudden pain three weeks ago on returning from church on Sunday, violent abdominal pain and vomiting being my chief symptoms. The pain was repeated on the following Thursday and Saturday and twice during last week." Vomiting very generally accompanies the attacks, but is not persistent. At first the patient usually speaks of the pain as being all over the abdomen, but when questioned can generally differentiate one side as being more painful than the other. If the bleeding increases, and always if the hæmatocele extends beyond the groin into the abdomen or really fills and distends the pouch of Douglas, the condition of the patient becomes permanently serious—she is confined to her bed with abdominal pain and tenderness. She is, as a rule, visibly anæmic from the loss of blood; there is either present or there is the clear history of some acute peritonitis following the last attack. The pulse is quick and feeble—probably 120 or more. There may be considerable pyrexia, the temperature rising to from 100° to 103° F., and in a certain proportion of cases there is slight but decided albuminuria. This last symptom appears in some way to be directly due to the blood effusion, for in the cases in which I have observed it it has promptly disappeared after opera-

tion. The pyrexia in intra-abdominal hæmatocele is probably due to re-absorption of blood, and need not be regarded as septic. When, however, the peritoneum has been lifted from the rectum or the pouch of Douglas is shut off from the rest of the peritoneal cavity, and this is acutely distended with blood, septic changes may occur and the pyrexia then is of a different character. The proximity of the rectum, the anterior coat of which is stretched and thin or the serous covering of which may be defective, favours the passage of septic matter from the bowel into the hæmatocele; decomposition of the blood slowly occurs, and the temperature may gradually rise to  $104^{\circ}$  and  $105^{\circ}$  F. The iliac hæmatocele or the pouch of Douglas becomes further distended by inflammatory effusion, and all the symptoms of septic absorption are present. Apart from this condition the chief value of the symptoms is as a measure of the importance and severity of the internal bleeding. The anæmia, the faintness, the collapse, the vomiting, the abdominal pain and the peritonitis will vary in direct ratio to the bleeding. If such symptoms are produced slowly they point to tubal mole with increasing hæmorrhage from the unruptured tube. If, on the other hand, they are produced suddenly they point to later rupture of the tube.

With this we complete the consideration of all the elements which go to form a positive diagnosis of extra-uterine pregnancy before and during those disturbances to its progress which are so common in the earlier months—the disturbance of intra-peritoneal bleeding and hæmatocele formation. Let us briefly recapitulate them. We have—

- (1) A patient within the child-bearing limits of age, and one in whom a pregnancy is possible.
- (2) She has recently been in good health.
- (3) It is more likely than not that several years have passed since her last pregnancy.
- (4) There is a history of some amenorrhœa accompanied or followed by—

(5) Irregular uterine hæmorrhage, occasionally profuse and red, but generally dark in colour, moderate in amount, and persistent in its course.

(6) With this there may be the history of the passage of some membrane, either in one pouch or bag as a "complete decidua," or in two pieces, or in shreds.

(7) On examination pulsating vessels may be felt in the vaginal vault on one side of the uterus.

(8) On this side also, and closely investing the back of the uterus, there is nearly always a tubal tumour (exceptionally this may have a different or curious situation).

(9) This tumour enlarges markedly and suddenly by recurrent hæmorrhages and by the formation of a hæmatocele directly continuous with the original tubal tumour.

(10) These hæmorrhages are signalised by sudden spasms of severe abdominal pain and by transient attacks of peritonitis.

(11) The uterus is displaced by the hæmatocele at first backwards, afterwards to the opposite side of the pelvis, and sometimes forward (against the pubes) (it is very rarely that the uterus is permanently displaced downwards); and

(12) The uterus throughout, although slightly enlarged, may be proved to be empty.

The differential diagnosis still remains for us to consider. Extra-uterine pregnancy under the conditions I have been describing may be mistaken for—

(1) Pyosalpinx, with amenorrhœa.

(2) Myoma.

(3) Simple abortion.

(4) Retroflexion of the gravid uterus.

(5) Antelexion of the gravid uterus; and

(6) Twisted pedicle tumours—(a) of the tube, and (b) of the ovary.

(1) Pyosalpinx is usually accompanied by regular menstruation, menorrhagia, or metrorrhagia. Every now and

then, however, in double pyosalpinx (when the ovaries have probably been rendered temporarily functionless by dense enveloping adhesions) there is total amenorrhœa of from two to three or four months' standing, and then the symptoms and signs may be almost identical in the two conditions. The pyosalpinx will afford us a typical tubal tumour, and when both sides are affected the tube of the one side is nearly always very much more distended than that of the other, so that the main tumour is one-sided. The inflammatory thickenings and adhesions closely surrounding the tube may simulate a hæmatocele. A pinhole perforation of the distended tube may cause abdominal pain, collapse, vomiting, and a consequent attack of peritonitis, and in short there may be nothing but the history to guide us to a wise and correct diagnosis. Here the immediately preceding health or ill-health of the patient becomes a point of high importance. If the pyosalpinx be quite recent there will still be the history of purulent vaginal discharge preceding the pelvic inflammation, while if, as is more probable, the pyosalpinx be an acute recrudescence of an old affection, the patient may confess to some similar attack two, three, or four years previously, and to some tenderness or aching in one side during all these years.

(2) The likeness to myoma is most marked when a tubal hæmatocele, not quite recent and hard from coagulation of the blood contained in it, is firmly fixed on one side of the uterus and is free from all other connexions. Then if the observer's mind be fixed on the condition of the uterus as a cause for continued uterine hæmorrhage, and if on bimanual examination he can thoroughly palpate a globular immovable "boss"—not specially tender—on one side of the fundus uteri, he may easily imagine the case to be a clear one of myoma. Case No. 37 may be taken as an example. Mrs. K. was sent to me as suffering from cancer of the uterus causing continued uterine hæmorrhage. The cervix was badly lacerated and diseased, but no certain sign of cancer could be detected. On further examination a hard

tumour or out-growth was felt extending from the fundus. It moved with the uterus and had no other connexions. Here was the source of the bleeding. Yes; but not the source imagined. Instead of the myoma too hastily diagnosed the tumour was a peri-tubal hæmatocele around an early tubal pregnancy. A more careful attention to the history would have prevented such an error and would generally direct the thoughts into a right channel when extra-uterine pregnancy is present. In the present instance there was a history of acute abdominal pain corresponding to the formation of the hæmatocele, and any attack of this kind is unknown or very unusual in myoma.



FIG. 7.—Diagrammatic representation of uterus and tumour as felt in Case 37.

(3) An extra-uterine pregnancy which has resulted in tubal mole and hæmatocele may easily be regarded as a simple abortion by anyone who depends entirely on symptoms, for these may be very similar in both affections, the peritonitic pains of the one being closely simulated by the painful uterine cramps of the other. On vaginal examination, however, the two conditions are at once differentiated or the "abortion" is shown to be no simple one by the presence of a tumour outside the uterus. When the conditions are unfavourable for a full examination, or when there are any grounds for supposing that a tumour may be present but inaccessible, great caution is needed. The interference that would be right in incomplete abortion may be very harmful when the main source of irritation is outside the uterus. No. 36 is a case in point. Mrs. L. came

to my out-patient room at the hospital with all the symptoms of an early abortion, and at her first visit I could find no trace of any tumour, the abdomen being rigid and the conditions generally unfavourable for full examination. The uterus was enlarged, the cervix was soft and open, and the hæmorrhage had been continuous for four weeks. Diagnosis was deferred. Some few days afterwards the uterus was dilated by the physician in attendance at the patient's home. Nothing was found within it. Severe abdominal pain set in coincidentally with the dilatation. I saw the patient again, recognised a tubal pregnancy on the right side of the uterus, admitted her into the hospital, and operated. The tube was ruptured, the placenta protruding. There were also recent inflammatory adhesions about the tube and uterus.

(4) Retroflexion of the gravid uterus has been recognised by most authors as a condition needing careful differentiation from extra-uterine pregnancy, because unfortunate cases have been recorded in which a distended tube in Douglas' pouch has been supposed to be the pregnant retroverted fundus, and an injudicious attempt at its replacement (?) has ruptured the tubal sac and hastened the death of the patient. When one knows this and recognises the danger of any interference before a certain diagnosis is formed, it will be found excessively rare or impossible for any similar mistake to recur. The position of the fundus must be ascertained by careful bimanual examination ; its presence or its absence in front of the tumour must be satisfactorily determined. When there is any tumour other than the fundus filling the pouch of Douglas the whole of the uterus (generally quite straight) is pushed against the pubes ; the cervix is looking directly downwards, and if the bladder be empty the fundus may be felt on gentle pressure immediately above the pubes. When the pregnant fundus is in the pouch of Douglas there is of course no fundus to be felt in front of the tumour. Bimanually the fingers of both hands may perhaps be so closely approximated above the pubes that the

cervix may be felt to be continuous with the posterior tumour and absolutely free from any other connexion. Retention of urine is more common in retroflexion of the gravid uterus, while a discharge of blood (unattended with labour pains) is more common in extra-uterine pregnancy.

(5) Antelexion of the gravid uterus, although but rarely recognised as a possible source of error, may occasionally be quite as perplexing as the gravid retroflexion. Whether from an unusually high attachment of the impregnated ovum—quite at the fundus uteri—or from some other cause less easy to understand, a pregnant patient, usually a primipara, is sometimes found who suffers from severe pains during the early months of pregnancy and in whom

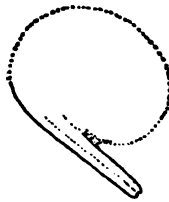


FIG. 8.—Diagram of antelexed pregnant uterus, with lengthened but undeveloped cervix.

the two or three months' pregnant fundus forms a globular elastic tumour which appears to have little or no real continuity with the cervix (fig. 8). The cervix remains thin, hard, undeveloped, pencil-like, and runs behind the tumour of the pregnancy as far as the finger can reach. Further, it is absolutely lengthened, so that it feels as if the whole of an infantile or ill-developed uterus was to be explored behind a sac of pregnancy. I have even known a sound passed to the top of the lengthened but undeveloped cervix under these conditions give almost or quite the normal uterine measurement, produce no abortion, and in this way afford to the practitioner who used it confirmation of his (mistaken) opinion that the pregnancy was outside the

uterus. Again, the knowledge that such cases occur is the surest safeguard against error. Sometimes the round ligament can be felt on each side of the distended fundus, and if so it is certain that the tumour felt is the uterus itself. If serious doubt remains in spite of ordinary careful methods of examination (which should *not* include the passage of the sound), it may be a relief to remember that extra-uterine pregnancy as well as intra-uterine pregnancy in a misplaced uterus does not as a rule cause urgent danger or need immediate interference so long as there is no sign of uterine discharge. If the patient be kept in bed she may remain under observation until the condition becomes clearer or until a more experienced opinion can be obtained.

(6) Twisted pedicle tumours—(a) blood tumours of the tube from twisted pedicle, and (b) blood tumours of the ovary from twisted pedicle. Small tumours of the tube or ovary arising from or increased after twisting of the pedicle are very liable to be mistaken for misplaced pregnancies which have resulted in internal hæmorrhage. Not only are the signs and symptoms extremely similar, but the physical condition, the resulting hæmatoma or hæmatocele, may be almost alike in the two conditions. When accompanied, as they sometimes are, with menstrual irregularity, the history also may favour the suspicion of a tubal pregnancy with hæmatocele. The sudden abdominal pain which characterises the final twist when the return circulation is obstructed, the vomiting and faintness which accompany this, and the rapid formation of a prominent and tender tumour, are all suggestive. The tumour itself, however, is not so intimately connected with the uterus as a tubal pregnancy would be. Whether formed by the tube or the ovary it has rather the character of an ovarian enlargement, and unless adherent to the uterus there is quite generally some unoccupied space to be discovered between the uterus and the tumour. The following cases are illustrative :—

Mrs. M., aged 29, had been suckling her second child



for six months when she was suddenly seized with severe abdominal pain on the left side. The pain continued. When examined some days later the following note was made: "A soft (cystic) elongated body, probably tubal, is felt behind the uterus." The patient had not menstruated since her confinement. The case was watched for a time, and before operation the diagnosis was entered of adherent tumour of the left ovary and tube. Abdominal section showed a torsion blood-cyst of the left Fallopian tube.

Mrs. N., aged 37, menstruated regularly until six weeks ago. On March 24 (five weeks after her last menstruation) she was suddenly seized with severe abdominal pain, fainting, and sickness. This occurred at night, and the pain has continued ever since. On examination a globular, tender tumour of about the size of a child's head was felt above the pubes on the right side. The uterus was displaced to the left by the tumour; it was of normal size and appeared to be empty. Although displaced by the tumour no direct connexion could be made out between the uterus and the tumour. The alternative diagnosis was made of right ovarian tumour with twisted pedicle, or extra-uterine pregnancy in the right Fallopian tube with hæmatocele. Abdominal section showed a black adherent blood tumour of the right ovary with a three times twisted pedicle.

So far we have been considering the diagnosis of extra-uterine pregnancy as associated with various disturbing influences which usually destroy the life of the foetus and seriously threaten or destroy that of the mother also.

In tubo-abdominal and in later tubo-ligamentary pregnancy both child and mother have escaped or "weathered" these early dangers, and if the child be living the diagnosis is much less complicated. In most cases there is but little doubt of the pregnancy, and the diagnosis then mainly

resolves itself into a differential one between intra- and extra-uterine pregnancy. When the child has been a long time dead, and the history of the pregnancy is no longer recent, the question of any pregnancy may be very doubt-



FIG. 9.—External configuration of abdomen in Case 3.

ful, and the diagnosis again may become perplexing and obscure. When the child is living, the ordinary history, symptoms, and external signs of pregnancy are probably present. There is a history of amenorrhœa corresponding



FIG. 10.—External configuration of abdomen in Case 33.

to the period of pregnancy, with or without some history of transient pain and discharge, about the time when the foetus escaped beyond the limits of the tube. The patient

herself has probably passed through the troubles and sensations generally incidental to a normal pregnancy—the morning sickness, unusual cravings of appetite, and the period of quickening. The mammary signs, pigmentation of the areola, and follicular development round the nipple (never very reliable), are more likely to be present than wanting. There is turgescence and bluish discolouration of the vulva and vagina. The mother is usually very conscious of the movements of the child, and if she have experience of former (normal) pregnancies may perhaps complain of its unusual position.

In tubo-abdominal pregnancy during the later months the foetus is immediately recognisable on examining the abdomen, sometimes on simple inspection, and always on light palpation (figs. 9 and 10). The foetus and placenta are probably lateral or zigzag in position, but the foetus may permit of passive movement into a more central situation. The ease and clearness with which its various parts can be palpated are quite remarkable; these may be felt to be lying immediately beneath the abdominal walls, and the mother may bitterly complain of pain from the foetal movements. A limb can, perhaps, be taken hold of and the beating of the foetal heart can be heard with unusual clearness. The parts of the pregnancy most liable to be mistaken for each other are the placenta and the head. The placenta being almost certainly attached to the tube should be lower in position. While the hands of the observer are examining the child there is no clear indication of any containing sac alternately expanding and contracting around the foetus. On vaginal and bimanual examination the uterus may be found displaced to one side of the pelvis, only slightly enlarged and obviously distinct from the child. If this be so, the position of the child is certainly extra-uterine, and the apparent absence of any covering argues a tubo-abdominal pregnancy rather than a tubo-ligamentary one.

Is the uterus definitely and decidedly distinct from the

pregnancy? This is the all-important question, for nearly everything I have described as characterising the abdominal position of the child may be wonderfully simulated by a normal intra-uterine pregnancy when the walls of the uterus are unusually thin. This extraordinary thinness of the uterine walls occasionally encountered, with or without "hydramnios," or excess of the amniotic fluid, has been noticed by many observers. One of the first to remark it was Dr. Ingleby, in 1834. In its extreme condition it is very curious and needs to be seen in order to be thoroughly believed. The fundus uteri cannot be found apart from the pregnancy, and this should excite the strongest suspicion *against* an extra-uterine position for the child. If the independent existence of the uterus cannot be demonstrated especial care and patience should be employed in watching, with the hand on the abdomen, for the slightest indication of a uterine contraction. If the loosely-lying limbs of the child do temporarily disappear and give place to the rounded arch, however feeble, of a containing sac, the presumption is in favour of an intra-uterine pregnancy.

In tubo-ligamentary pregnancy, before the child is sufficiently formed to be detected by palpation, there may be an opportunity for diagnosing the condition, as in the two cases I mentioned at the beginning of this lecture. From the experience there described it would appear that in the posterior ligamentary variety the tumour of pregnancy may be so centrally situated and the uterus so united to it—probably so spread out on its anterior surface—that early pregnancy within the uterus is very closely simulated. Rectal examination might materially assist the examiner under such conditions, and will, I hope, prove of future service in the early detection of this variety. In the later stages of the tubo-ligamentary pregnancy, when the child is living, many of its features are very comparable to those described as existing in the abdominal

variety, but are less marked. The tumour of the pregnancy is probably lateral or eccentric. Though contained in a sac the latter is very likely not of uniform thickness, and in some parts the child may seem to be very near the surface, and may be more easily palpated than when *in utero*. This especially applies to the anterior or sub-peritoneo-abdominal variety, where part of the sac of pregnancy may be between the peritoneal reflexion and the skin. Abdominal *ballotement* of the foetus is often very marked, and the foetal heart-beats are well heard. Sometimes the foetal limbs are lying in the pouch of Douglas, and are then palpated with great facility (Winter). As the child has been originally formed below the placenta the latter will probably have a higher position than in tubo-abdominal pregnancy, and internal hæmorrhage from displacement (with faintness, blanching, and fatal collapse) may arise. The foetal movements, active and passive (*ballotement*), and the auscultation of the foetal heart and of the placental *souffle*, will testify to the fact of pregnancy, but dependence must be placed on careful vaginal and bimanual examination for the detection of its abnormality. The cervix is displaced and the rest of the uterus is pushed (generally) to one side and downwards below the sac of pregnancy.

The differential diagnosis at this stage consists in the separation of advanced abdominal and tubo-ligamentary pregnancy from :—

- (1) Normal intra-uterine pregnancy.
- (2) Pregnancy in one half of a double uterus ; and
- (3) Pregnancy in one horn of a bicornuate uterus.

(1) In tubo-ligamentary pregnancies the uterus is in much closer relation to the pregnancy than in the tubo-abdominal form. It is often intimately incorporated with one side or aspect of the sac, as it so often is in other intra-ligamentary tumours when these form. In spite, however,

of this the solid thickness of its body traced upwards from below, the undeveloped state of the cervix, and the palpable emptiness of its cavity, all emphasised more strongly the nearer the pregnancy approaches to term, will hardly fail to guide the observer to a right conclusion. If the sound be used to confirm that opinion it must be remembered that the uterus is often greatly stretched by the growth of the pregnancy, but there will be no free movement of the sound within the cavity of the uterus. As already stated, regular contractions and relaxations of the sac are strongly suggestive of an intra-uterine position. Whether these ever occur in a ligamentary sac containing some muscular structure is doubtful. This is a point which requires further observation.

(2) Pregnancy in one half of a double uterus is only perplexing to those who have no knowledge of the condition. The double cervix seen through a vaginal speculum will at once suggest the possible explanation of any abnormality, and the non-pregnant uterus can be isolated from the pregnant one by passage of the sound.

(3) Pregnancy in one horn of a bicornuate uterus is more difficult, especially if the non-pregnant horn be considered to be the body and fundus of the uterus. The condition (like the preceding) is a very rare one, but so also is an extra-uterine pregnancy to the ordinary accoucheur. If no serious symptoms are present and labour appears to be proceeding as usual, the child in one horn of a bicornuate uterus will probably be born without difficulty. In some of these cases, however, there is no perfect communication between the pregnant horn and the cervix, and when this is the case the birth of the child is quite as impossible without operation as it is in true extra-uterine pregnancy.

In all extra-uterine pregnancies which go to term there is a more or less well-marked period of false labour, and

with this we have certain warnings, opportunities, and signs which should be of special interest to the accoucheur. The latter is usually sent for on the supposition that labour is beginning, and it is of very great importance that this opportunity for diagnosis and advice should not be neglected. Whenever the cervix is found to be small and somewhat displaced and to have no proportionate relation to the history and symptoms of a full-term pregnancy, the case should be thoroughly investigated and a full examination made. Especially care is necessary that the complaint of the patient be not lightly dismissed as simply a "false alarm." In extra-uterine pregnancy the "pains" are abdominal and are chiefly connected with the movements of the foetus. They are probably accompanied by some vaginal discharge and sometimes by the expulsion of membrane. The pains last for several days, often preventing sleep. Finally they cease—cease suddenly—and the movements of the child are no longer felt. Soon after the breasts enlarge and temporarily fill with milk, but no encouragement being afforded to its flow, the draught soon ceases. All symptoms directly connected with the pregnancy (except the enlargement of the abdomen) permanently subside and the patient either enjoys a moderate amount of health and resumes her usual duties carrying her dead child with her, or septic changes occur within the sac, rigors and fever follow, and the patient drifts into a "typhoid" state from which nothing but the removal of the putrid contents of the sac can rescue her.

This brings us to the consideration of the second division of full-term extra-uterine pregnancy—viz., when the child is dead. In tubo-abdominal pregnancy the child is in all cases so easily distinguished that notwithstanding all movement is lost there is but little real difficulty in the diagnosis. The shape of the abdominal tumour, and especially the detection of the foetal limbs through the

abdominal parietes, combined with the evidence of an empty uterus, will in all cases establish the nature of the case. The differential diagnosis from intra-uterine pregnancy, which before "term" and when the child was living we found to be of first importance, is now (probably) no longer necessary and the diagnosis is correspondingly lightened. But in the tubo-ligamentary pregnancy, and especially in the posterior ligamentary form, the diagnosis is often rendered exceedingly obscure and difficult by the death of the foetus, the more so when several months have elapsed since its life was ended. Menstruation may have

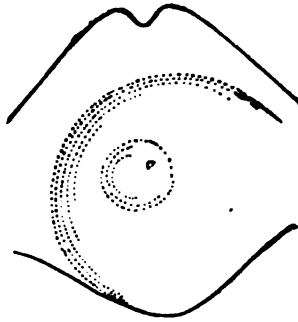


FIG. 11.—External configuration of the abdomen in Case 4. The inner circle near the umbilicus marks an area of less resistance, within which it was possible to palpate the foetus.

been re-established and the patient does not necessarily volunteer the slightest information which would direct the mind towards the causation of the tumour. There is, of course, no foetal heart-beat, no foetal movement, no placental *souffle*, the patient's breasts have lost all indication of a pregnant state, and if septic disturbance has already taken place the patient may be in no condition to answer intelligently the questions of the examining surgeon. There is nothing but the large, fixed abdominal tumour, the nature of which may be hidden by the thickness of its walls (fig. 11). The suspicion of pregnancy, while the



tumour was forming, if alluded to, is so common among all women with gradual abdominal enlargement that its significance is very easily unrecognised. No class of case may require more painstaking patience and perseverance in its investigation. Little by little, however, the history of the pregnancy may be gathered. The nine months' slow enlargement of the abdomen, the amenorrhœa, the foetal movements (?), the spurious labour or something corresponding to it, the history of the breast-signs, all should be inquired after and their presence or absence noted. Sometimes, on deep palpation of the tumour, one may feel the resisting body of the foetus after displacement of the fluid which surrounds it—a valuable sign, which can only be simulated by a solid tumour, probably papillomatous or malignant, floating in a cystic cavity. The differential diagnosis under these conditions will be from ovarian tumour—simple, suppurating, or malignant. The mimicry of the last condition to extra-uterine pregnancy with retained foetus may be curiously complete. In one case on which I operated the patient had a large abdominal tumour which had been forming for twelve months. Menstruation had ceased from the first appearance of the tumour. The patient considered herself pregnant and prepared for the birth of the child. The medical man was engaged for the confinement, and at the end of nine months some kind of spurious labour (or what was taken for such) undoubtedly took place, but no child was born. When I saw her some three months later she had rapidly emaciated, there was evening pyrexia, and the abdomen was greatly distended by an irregular tumour, more marked on one side of the body. On vaginal and bimanual examination the uterus was found to be independent of the tumour and empty, and on palpation in the pouch of Douglas the finger, after displacing fluid, felt two solid bodies which resembled the feet and ankles of a foetus at full term. At the operation there was malignant tumour of both ovaries with localised ascites and two movable

malignant nodules floating in the pouch of Douglas. In difficult cases the evidence may be insufficient to warrant a certain single diagnosis, but it should be sufficient to offer an alternative selection, and to guard the surgeon from any unpleasant surprises or difficulty after opening the abdomen. The clinical diagnosis of tubo-uterine or interstitial pregnancy is an impossibility. The nearest approach to it which can be made is to recognise that in this form rupture takes place from the second to the fourth month, that this is signalised by diffuse internal bleeding as in the worst cases of early rupture, and that hitherto this has always proved fatal. There is an inter-operative diagnosis—the quick recognition of the pathological condition present—which may be assisted by the consideration already given to the affection itself and by the study of all known specimens. The recognition of the special form of distortion or asymmetry produced in the uterus by its presence is the only point of practical importance. Its bearing on quick operative action will be considered under “Treatment.”

TABLE OF CASES OF

No.	Age.	Married.	Children.	Youngest.	Last men- struation.	Signs.	Symptoms.	Diagnosis.	Remarks.
1	38	—	2	12	11 weeks	Right side tumour	Pain and emaciation	—	Marked albu- minuria
2	32	—	4	2	17 weeks	Tumour on left side and be- hind uterus	Pain on left side; irregular bleeding two months, after amenorrhoea two months; in bed four weeks	Tubal preg- nancy	—
3	35	—	4	11	9 mths.	Child felt in ab- domen; uterus empty, fetal pulse very audible	Hemorrhage and pain after 2 mths. amenorrhoea (time of rupture)	Abdominal pregnancy	—
4	36	6 yrs.	3	2	12 mths.	Large abdo- minal tumour	Septic; rigors; pyrexia; in bed for two months	Extra-uterine pregnancy with dead foetus	—
5	44	—	4	5	8 weeks	Tubal tumour behind uterus	Constant loss for 8 weeks	Tubal preg- nancy	—
6	33	—	1	7	5 weeks	Boggy mass in pouch of Douglas	Symptoms of in- ternal bleeding; abdominal pain; pulse 135	Ruptured tubal pregnancy	—
7	39	Second time for 8 yrs.	4	13	(7)	Fixed tender cyst behind uterus	Irregular loss for 3 months	Ovarian cyst	—
8	26	7 yrs.	1	6	2 mths.	Small painful tumour be- hind uterus	Amenorrhoea 5 weeks followed by loss for 3 weeks; abdominal pain and pain on defec- ation	Tubal preg- nancy	—
9	39	17 yrs.	5	11	14 weeks	Tender tumour in pouch of Douglas; uterus retro- flexed	Amenorrhoea 5 weeks followed by loss for 9 weeks; abdomen dis- tended and tender; legs drawn up	Ruptured tubal pregnancy	Slight albu- minuria
10	31	3 yrs.	2 mis- carri- ages	—	10 weeks	Mass to right of pubes; pouch of Douglas distended	Sudden repeated attacks of abdomi- nal pain	Ruptured tubal pregnancy	Slight albuminuria
11	37	Nearly 11 yrs.	1	10	9 weeks	Mass in Douglas, pouch reach- ing above pubes	Amenorrhoea 6 weeks followed by irregular loss and pain and latterly pyrexia; tempera- ture from 99° and 101.4° to 104.8° F.	Ruptured tubal pregnancy; hematocele	Took herbs to bring on abortion

# EXTRA-UTERINE PREGNANCY.

6 2	Medical Attendant.	Date of Operation.	Place.	Present.	Particulars.	Sequel.
1	Mr. Barratt	March 7th, 1888	Women's Hospital, Birmingham	Dr. S. T. Ricketts (U.S.A.) and Dr. A. Clark	Large foetus and pla- centa (from 3 to 4 months)	Left hospital March 28th; recovery
2	Dr. Lynes	June 14th, 1890	Do.	Mr. F. H. Maberly, Dr. Baker, and Dr. Eccles (U.S.A.)	Large unruptured tube containing mole	Left June 28th; recovery
3	Dr. Lycett	June 24th, 1890	Wolverham- ton Hospital for Women	Dr. Lycett, Dr. C. Smith, and Dr. Hubbersty	Removal of child; re- moval of placenta	Left Oct. 4th; recovery
4	Dr. Cook	Feb. 27th, 1891	Private Hospital	Dr. L. Phillips and Dr. Robinson (U.S.A.)	Cyst of Pregnancy sewn to incision	Left April 10th, 1891; recovery; subsequent normal pregnancy and good delivery
5	Dr. D. C. Martin	July 23th, 1891	Women's Hospital, Birmingham	Dr. Bull and Dr. Melson	Right tubal mole, un- ruptured, in middle portion of tube; ab- domen reopened for obstruction	Left July 25th; recovery
6	Dr. Bernays	Jan. 29th, 1892	Patient's Home	Dr. Bernays and Dr. Phillips	Left tube ruptured, removed; diffuse hæ- morrhage	Recovery
7	J. W. T.	April 20th, 1892	Women's Hospital, Birmingham	Dr. Melson	Right tubal pregnan- cy, with encapsulated hæmatocele (unrup- tured)	Left May 8th; recovery
8	J. W. T.	July 4th, 1892	Do.	Dr. Phillips	Right tubal mole; tube unruptured; hæmatocele partly encapsulated	Left July 18th; recovery
9	Dr. Holdsworth	Sept. 15th, 1892	Do.	Dr. Phillips	Right tubal pregnan- cy removed; free hæmorrhage; tube unruptured; rupture of hæmatocele	Left Oct. 8th; recovery
10	Mr. H. H. H. Addenbrooke	Oct. 11th, 1892	Do.	Dr. Phillips, Dr. Williams, Dr. Edge, Dr. De la Chérolis, and Mr. Addenbrooke	Right broad ligament pregnancy; free bleeding; pulse 156	Left Nov. 13th; recovery
11	Dr. Fitz- patrick	Jan. 6th, 1893	Private Hospital	—	Vaginal section and clearing out; drain- age	Left Jan. 23rd, 1893; recovery

TABLE OF CASES OF EXTRA-

No.	Age.	Married.	Children.	Youngest.	Last menstruation.	Signs.	Symptoms.	Diagnosis.	Remarks.
12	27	4 yrs.	2 ; 1 miscarriage	7½ mths.	(?)	Tender hard mass behind uterus	Sudden abdominal pain 5 weeks before, followed by irregular loss ; no amenorrhoea	Ruptured tubal pregnancy	—
13	23	4 yrs.	0	—	7 weeks	Fixed tense elongated tumour behind uterus	Ill 10 weeks with abdominal pain	Tubal	—
14	32	14 yrs. (second time for 5 yrs.)	2 (pre-mature)	6	9 weeks	Mass behind uterus reaching above half way to umbilicus	Sudden severe abdominal pain 10 days before operation ; continuous loss for 9 weeks	Ruptured tubal pregnancy	Trace of albuminuria
15	25	1½ yrs.	1	5 mths.	5 weeks	Mass to left of pubes and behind uterus, tender, fixed	Loss for 5 weeks ; seized with sudden pain 2 weeks ago ; bent double with it	Ruptured tubal pregnancy ; hæmatocele	—
16	32	7 yrs.	0	—	(?)	Hard mass to right of uterus	Irregular loss for 3 months	Myoma	—
17	27	5 yrs.	1	1	5 weeks	Small mass behind uterus ; abdomen distended, soft, fluctuating	Irregular loss for 5 weeks ; acute seizure of abdominal pain 6 days before operation ; much worse for 12 hours	Ruptured tubal pregnancy	Mitral regurgitation murmur first noticed after operation
18	39	6 yrs.	2	3	"Regular"	Large round cyst, reaching above pubes in front of uterus	"Inflammation 3 years ago" ; an acute attack of abdominal pain and sickness 2 weeks ago	Ovarian cystoma	—
19	27	½ year	1 miscarriage 3 mths. ago	—	(?)	Large tender mass behind and to left of uterus	Pain in left side ever since miscarriage ; unable to walk or work	Tubal pregnancy	—
20	27	8 yrs.	3	4	11 weeks	Mass left, lateral, in front of uterus, extending above left groin	Violent abdominal pain 9 weeks ago ; pain ever since preventing sleep	Tubal pregnancy and hæmatocele	—

# UTERINE PREGNANCY—(continued).

No.	Medical Attendant.	Date of Operation.	Place.	Present.	Particulars.	Sequel.
12	Mr. Jephcott	Jan. 19th, 1893	Private Hospital	Dr. Phillips	Right tubal pregnancy removed; tube itself unruptured; rupture of hæmatocele	Left Feb. 2nd; recovery
13	Dr. T. A. Brown	June 6th, 1893	Women's Hospital, Birmingham	Dr. Phillips, Dr. Martin, Mr. Jordan, and Dr. Collins	Unruptured mole of left tube removed; hæmatocele	Left June 27th; recovery
14	Dr. S. S. Dunn	July 15th, 1893	Do.	Dr. Phillips, Dr. Martin, Mr. Jordan, and Dr. S. S. Dunn	Right tubal pregnancy removed; tube itself unruptured, but recent rupture of large hæmatocele about fimbriated end of tube	Left Aug. 2nd; recovery
15	Dr. A. Clark	Jan. 30th, 1894	Do.	Mr. Jordan and Dr. Edge	Left tubal mole and hæmatocele with peripheral adhesions; mole at outer end of tube; rupture of tube, clot protruding	Left Feb. 19th, 1894; recovery
16	Mr. J. J. Hues	Feb. 15th, 1894	Do.	Mr. Jordan and Dr. Martin	Old right tubal pregnancy unruptured	Left March 1st; recovery
17	Dr. O. Shaw	May 12th, 1894 (1.0 a.m.)	Patient's Home	—	Right tube (ruptured) removed; diffuse hæmorrhage	Recovery; subsequent normal pregnancy; delivery July 8th, 1896
18	Dr. Cranstoun	Sept. 4th, 1894	Private Hospital	Mr. Jordan	Right ovarian dermoid; left tubal pregnancy (unsuspected); fetus well formed	Left Oct. 5th; recovery
19	Mr. Clarkson	Dec. 1st, 1894	Do.	Mr. Jordan	Left tubal pregnancy and hæmatocele; peripheral adhesions; tube probably unruptured; fimbriated end widely opened out	Left Dec. 19th; recovery
20	Dr. Purslow	Dec. 14th, 1894	Women's Hospital, Birmingham	Mr. Jordan	Left tubal pregnancy; mole, hæmatocele; large tube distended throughout with blood and blood clot; fimbriated end very thin but unruptured; bleeding mainly confined by adherent omentum	Left Jan. 2nd, 1895; recovery

TABLE OF CASES OF EXTRA-

No.	Age.	Married.	Children.	Youngest.	Last menstruation.	Signs.	Symptoms.	Diagnosis.	Remarks.
21	31	11 yrs.	1	10	14 weeks	Mass on right side of lower abdomen and behind uterus, tender, fixed	Abdominal pain, vomiting, and distension	Tubal pregnancy; hematocele	Some albuminuria and jaundice
22	32	13 yrs.	1	12	14 weeks	Large hard mass on left side of abdomen above left groin and in pouch of Douglas	Abdominal pain, in bed 6 weeks; history of 3 falls (2 in street)	Tubal pregnancy; hematocele	—
23	30	10 yrs.	1; miscarriage 5 years ago	9	5 weeks	Boggy mass in Douglas' pouch; abdomen distended	Blanching; pulse 150; symptoms of internal bleeding	Ruptured tubal pregnancy	—
24	35	—	1	14	6 weeks	Mass above pubes and behind uterus	Abdominal pain for 1 month preventing sleep; loss for 6 weeks	Tubal pregnancy	—
25	30	$\frac{1}{2}$ year	0	—	4 weeks	Boggy mass filling pouch of Douglas; abdomen distended	Symptoms of internal bleeding; blanching; abdominal pain; pulse 120	Ruptured tubal pregnancy	—
26	35	14 yrs.	2; 1 miscarriage 8 years ago	12	8 weeks	Hard, tender mass behind and to right of uterus	Abdominal pain, worse on sitting; temperature 100° F.	Tubal	—
27	42	18 yrs.	6	7	3 months	Mass to right of and behind uterus	Great pain in lower abdomen and pelvis for 6 weeks	Tubal pregnancy	—
28	28	7 yrs.	2	4 $\frac{1}{2}$	8 weeks	Mass behind and to right of uterus	Abdominal pain getting worse for 1 month; unable to do anything	Tubal pregnancy	—
29	40	19 yrs.	6; 3 miscarriages, last 6 years ago	8	Irregular	Cystic mass behind and to right of uterus; hard lump below this	Pain in abdomen, worse on walking or defecation	Right ovarian cystoma	—

# UTERINE PREGNANCY—(continued).

No.	Medical Attendant.	Date of Operation.	Place.	Present.	Particulars.	Sequel.
21	Mr. Greene	Jan. 27th, 1895	Stratford Hospital	Mr. Greene, Dr. Nason, and Mr. Lupton	Right tubal pregnancy and hæmatocele; removal; tube ruptured; 3 months' foetus well developed	Left March 18th; recovery
22	Mr. Clarkson	March 23rd, 1895	Women's Hospital, Birmingham	Mr. Jordan and Dr. Edge	Right tubal pregnancy, ruptured, and hæmatocele removed	Left April 16th; recovery
23	Dr. Shillito	July 15th, 1895	Patient's Home	Mr. Jordan and Dr. Shillito	Left tubal pregnancy; early rupture near uterus; large vessels; both appendages removed; right ovary cystic	Recovery
24	Mr. Wood	July 18th, 1895	Women's Hospital, Birmingham	Mr. Jordan	Ruptured broad ligament pregnancy; hæmatocele cleared out and drained; big hole in ligament	Left Aug. 17th; recovery
25	Dr. Littelton	Nov. 30th, 1895	Patient's Home	Mr. Gamgee and Dr. Littelton	Left tubal pregnancy; early rupture close to uterus; abdomen full of blood	Died Dec. 17th
26	Dr. T. A. Brown	Dec. 3rd, 1895	Private Hospital	Dr. T. A. Brown and Mr. Jordan	Broad ligament pregnancy and hæmatocele; vaginal incision as well as abdominal section	Left Dec. 26th; recovery
27	Dr. Welsh	Dec. 31st, 1895	Women's Hospital, Birmingham	Mr. Jordan	Right tubal mole and hæmatocele; tube unruptured; typical specimen with rosette of fimbriae at bottom of hæmatocele	Left Jan. 20th, 1896; recovery
28	Dr. A. Clark	Feb. 1st, 1896	Do.	Mr. Jordan and Dr. Martin	Ruptured broad ligament hæmatocele; free blood in abdomen; big hole in ligament to right of uterus; cleaned out and drained	Left Feb. 14th; recovery
29	Mr. Addenbrooke	Feb. 28th, 1896	Do.	Mr. Jordan and Mr. Savage	Cyst of right ovary with ruptured pregnancy of right tube; rupture size of a sixpence quite at uterine end	Left March 24th; recovery



TABLE OF CASES OF EXTRA

No.	Age.	Married.	Children.	Youngest.	Last men- struation.	Signs.	Symptoms.	Diagnosis.	Remarks.
30	39	15 yrs.	7	1½	(?)	Large mass be- hind uterus, not adherent	Irregular loss for 7 weeks; 5 or 6 at- tacks of abdominal pain	Tubal preg- nancy and hæmatocele	Patient suck- ling up to time of admission
31	23	3½ yrs.	2	1	10 weeks	Cystic mass to left of uterus with hard lump at highest part	Amenorrhœa 5 weeks followed by irregular loss; pain in left side of abdomen and rec- tum	Left ovarian cystoma or tubal preg- nancy	—
32	27	7 yrs.	3	1½	4 months	Hard mass on left side of lower abdo- men, one with uterus	Continuous loss for 4 months; severe abdominal pain for some weeks; acute pain 4 days	Tubal pregnancy	—
33	27	9 yrs.	4	4	12 mths.	Child felt in ab- domen; uterus empty	Losing for 7 weeks; passage of decidua 5 weeks ago	Abdominal pregnancy	—
34	36	—	—	—	10 weeks	Mass in lower abdomen and behind uterus, very tender; distension	Symptoms of inter- nal bleeding, vomiting, faint- ness	Ruptured tubal pregnancy; hæmatocele	—
35	37	8 yrs.; 1 year	1; 2 mis- carri- ages, last 5 mths. ago	7	7 weeks	Left lateral tumour push- ing uterus to right; tender, fixed	Abdominal pain; temperature from 99° to 100° F.; amenorrhœa 5 weeks followed by irregular loss	Tubal pregnancy with hæmatocele	Married twice; 2nd time one year only
36	27	9 yrs.	2	—	10 week	Ill defined tumour felt above right groin, pushing uterus to left	Losing for 4 weeks; symptoms as of ordinary miscarri- age at first; cer- vix dilated by medical atten- dant; severe ab- dominal pain afterwards	Right tubal pregnancy	No history of decidua
37	37	17 yrs.	6	—	(?)	Tumour at- tached to left side of uterus at fundus	Losing for 7 weeks; sent into hospital as case of uterine cancer	Myoma	Laceration and hyper- trophy of cervix

# UTERINE PREGNANCY—(continued).

N <sup>o</sup>	Medical Attendant.	Date of Operation.	Place.	Present.	Particulars.	Sequel.
30	Mr. J. D. Price	April 22nd, 1896	Women's Hospital, Birmingham	Mr. Jordan and Mr. Price	Ruptured right tubal pregnancy; hæmatocele with peripheral adhesions; removal	Left May 8th; recovery
31	Mr. Trout	May 8th, 1896	Do.	Mr. Jordan	Cyst of left ovary with tubal pregnancy perched on top; tube unruptured	Left May 23rd; recovery
32	W. T.	Sept. 10th, 1896	Do.	Mr. Jordan and Dr. Edge	Early interstitial pregnancy; left cornu of uterus and tube dilated into large blood sac; ligatured off from the uterus in four sections	Left Sept. 28th; recovery
33	Mr. Clarkson	Dec. 11th, 1896	Do.	Mr. Jordan and Dr. Martin	Child and placenta removed	Left Jan. 26th, 1897; recovery
34	Dr. T. A. Brown	Jan. 22nd, 1897	Patient's Home	Mr. Jordan and Dr. T. A. Brown	Left tubal pregnancy; very large mole at extreme outer end of tube; tube probably unruptured; free hæmorrhage into abdomen	Recovery
35	Mr. Tighe	Feb. 13th, 1897	Private Hospital	Mr. Jordan and Mr. Tighe	Left tubal pregnancy with encapsulated hæmatocele; rupture of tube; pregnancy near uterine end	Left March 7th; recovery
36	Mr. Clarkson	Oct. 25th, 1897	Women's Hospital, Birmingham	Mr. Jordan	Tube ruptured placenta protruding	Left Nov. 15th; recovery
37	Mr. H. K. Bradbury	Dec. 15th, 1897	Do.	Mr. Jordan	Vaginal section and vaginal hysterectomy; removal of pregnancy; tube unruptured; bleeding from abdominal ostium	Left Jan. 1st, 1898; recovery

*Treatment.*

The treatment of extra-uterine pregnancy is essentially operative. This fact is set forth very strongly in the well-known assertion of Werth, who declares that "ectopic gestation must be considered as a malignant new growth, and therefore should be removed by operation at every stage of its development." This is a sweeping assertion, and one or two exceptions must be made to it. For example, in the latter half of a tubo-abdominal or tubo-ligamentary pregnancy, when no sign of danger is present, it may be better practice to wait for operation until a time at or about the usual period of delivery, when the child is viable and strong, than to operate earlier when the life of the child is certain to be sacrificed. Some surgeons have advised that we should go beyond this and wait for operation until after the death of the child, so as to have, if possible, a less vascular placenta to deal with. For my own part, in all cases of later extra-uterine pregnancy, with a living foetus and without any special sign of imminent danger, I would choose whenever practicable the most convenient date in the ninth month on which to operate. I would not wait for any sign of spurious labour or seek after exact correspondence with the natural term, but I would endeavour to perform the operation under the best conditions for both lives concerned. Again, occasionally, here and there, a case of ruptured tubal pregnancy or of tubal mole with peritubal hæmatocele recovers without operation, and the fact must be recognised and dealt with. I have seen five or six cases of such recovery, and there could be no doubt of the genuineness both of the disease and of the recovery; indeed, in one of these cases, as we have seen, the rupture in the tube and the traces of the old hæmatocele were plainly visible on opening the abdomen some two years later. If my own experience can be regarded as at all general or typical, this would give a proportion of about 5 per cent. of all cases observed which may be expected to

terminate by process of natural recovery. Is there anything to mark these cases out from all the rest? Not much, I think, for the swelling of the tube, followed by the further tumour of the hæmatocele, the acute attack of abdominal pain and the peritonitic sequel, may all be quite as marked as in the majority of cases. But if the case recovers without operation the pregnancy is usually destroyed by the first (and only) bleeding, and the hæmorrhagic discharge from the uterus, which during the period of abdominal hæmorrhage and pain has probably been irregularly abundant, absolutely ceases with the definite termination of the pregnancy and beginning of absorption, and the patient becomes free from pain. Under these circumstances cessation of growth, cessation of hæmorrhage, cessation of pain—notwithstanding the pelvic tumour of the distended tube and hæmatocele—it may be right to withhold operation and give the patient, by rest in bed, by a liberal but non-stimulating diet, and by attention to all excretory functions, an opportunity of natural cure. It is worthy of note, however, that this natural cure is rarely very satisfactory, and that it contrasts somewhat unfavourably with operative methods. It requires many weeks or even months of rest for complete absorption to take place, and at the close of the process the distortion and fixity of adjacent organs (due to the prolonged presence of the hæmatocele) may still be marked and possibly permanent. In some cases, too, the foetus may have arrived at a stage of development in which complete absorption is impossible, and if so, although apparent recovery should follow, there may be no finality about it. Months or years afterwards suppuration may occur about the retained foetus, and the evils connected with this prove very much greater than those encountered at the earlier disturbances. Finally, in all cases the danger of waiting—the danger of temporising when any symptom of collapse or pain is present—should be thoroughly recognised and appreciated. So far as we know at present, if 5 patients may possibly weather the storm by months of rest 95

patients will die if surgical aid is withheld. Now, what is the prospect or prognosis after surgical treatment? In my own series of cases 37 cases of all kinds are reported with 36 recoveries and 1 death. In Mr. Tait's list, published in 1888, we find 42 cases with 40 recoveries and 2 deaths, and in Mr. Mayo Robson's cases recently reported 23 cases with 22 recoveries and 1 death. I have some reason to know that while these results are all very good they are not specially exceptional. If I turn to the statistics of the chief hospital with which I am connected, the Birmingham and Midland Hospital for Women, I find in the decade from 1886 to 1896 that 62 cases of ectopic gestation were operated on with 61 recoveries and 1 death; and smaller series of cases are being frequently reported in the medical journals, none of which show any high mortality. The mortality of all cases is not probably more than 5 per cent.

The operative treatment of extra-uterine pregnancy may be considered under two divisions—viz.: (1) operations in the earlier half of pregnancy; and (2) later operations. (1) In the first we must consider—operations for diffuse hæmorrhage and operations for localised tumour, either an intact pregnancy or hæmatocele; and (2) in the second division we shall have to deal mainly with the operative delivery of the mother at or beyond the period of term under tubo-abdominal and tubo-ligamentary pregnancy.

(1) Operation for diffuse hæmorrhage may be required in—(a) early rupture of the tube; (b) later rupture of the tube; (c) intra-peritoneal rupture of broad-ligament pregnancy; (d) rupture of a peri-tubal hæmatocele; and (e) rupture of a tubo-uterine or interstitial pregnancy. The operation here will of necessity involve abdominal section. It will be an operation of emergency. It will have to be done at the patient's home—very possibly at night—under uncomfortable conditions and often without skilled assistance. None of these difficulties must be allowed to excuse

any laxity in surgical asepsis, and therefore the operator must himself be prepared to act as his own chief assistant, and by order and method reduce his dependence on others to a minimum. Some kind of operation table is an absolute necessity, for the abdominal cavity will need washing out with warm water. Plenty of boiling water must be available. The operator arranges his portable steriliser, his instruments and his sterilised pads (some of which should be of large size) within easy reach of his right hand so that he can help himself to anything he wants. No time must be lost. When the diagnosis has once been made the operation must be performed at the earliest possible moment consistent with a prepared and cleanly *entourage*. While the patient is passing through the later stage of narcosis the abdominal wall is carefully cleaned with soap and water and afterwards with methylated spirit. The incision—made in the middle line—will probably at once disclose some confirmation of the diagnosis, the black colour of the blood within the abdomen showing darkly through the transparent peritoneum. On opening this blood and blood-clot pour out freely. The fingers of the left hand are inserted into the abdomen, seize the uterus, and feel at once for the site of pregnancy, the source of bleeding. If, as usually happens, this can be identified by touch it is immediately withdrawn out of the abdomen, the parts below the tube being firmly held so as to stop any further bleeding. The operator then—with his disengaged right hand—takes the needle armed with ligature silk from the steriliser, transfixes the broad ligament below the tube, with Staffordshire knot or linked double ligature ties off the pregnant tube and finally removes it. The abdomen is now thoroughly washed out with blood-warm water, the pelvis is specially cleared of blood-clot, a drainage tube is placed in the pouch of Douglas, and the abdominal incision is closed. After the wound is dressed a binder is applied tightly round the abdomen, and if the patient be nearly pulseless she is placed in bed on an inclined bedstead with the lower extremities raised.

The operation itself is often an easy one, but there are difficulties which may interfere with its ready performance. The most important is the impossibility of seeing what one has to do. The blood continues to well up from the pelvis, and vigorous sponging may only afford momentary glimpses of the pedicle or broad ligament. In this case pouring clear warm water over the wound and packing some of the larger pads into the pelvis and round the affected tube will often prove of service. Sometimes this difficulty of vision has a more serious bearing. If the pregnancy has already escaped from the ruptured tube it may be no easy matter to detect which is the affected side and where is the source of the hæmorrhage. Under these circumstances the temporary control of the circulation with one or two pairs of Doyen's lighter elastic forceps will allow of the washing out of the abdomen and enable the operator to search for and to find the tubal rent without fear of further loss while the search is still in progress. I always take these forceps to any abdominal operation of emergency; their pressure can be nicely adjusted so that intestine even need not suffer any injury in their temporary grasp, while the higher grades of pressure are sufficient to control the broad ligaments in a case of hysterectomy. Occasionally, when a ligature is difficult or impossible to place, a pair of these forceps may be left on the broad ligament or on the side of the uterus at the close of the operation. A compression of from eighteen to twenty-four hours is usually sufficient. In diffuse hæmorrhage from the rupture and extrusion of a tubo-ligamentary pregnancy, the temporary or more lasting use of forceps may be of signal service. The bleeding points may be entirely hidden, furnished largely by branches of the uterine artery; and this or firm plugging with iodoform gauze may be the only way of arresting the hæmorrhage. In tubo-uterine or interstitial rupture with diffuse bleeding—a condition in which surgery has still to win its laurels as victor—the quick recognition of the condition on opening the abdomen will be the first element of success, and the

rent on one side in the upper part of the uterus and the different levels at which the tubes appear to enter the uterus should guide the operator to a quick decision. In this case the uterus should be drawn out of the wound, two transfixion pins passed, first through the peritoneum on one side of the incision, then through the uterus well below the tear, and finally through the peritoneum of the opposite side (as in the method described by myself in 1893), a "wire-clamp" applied below these, and the latter screwed thoroughly "taut." The hæmorrhage is then absolutely controlled, and if the clamp be always ready for use the time occupied in effecting this control need scarcely be longer than that which has been used in briefly describing the method. The operator can wash out the abdomen through the upper part of the incision above the clamp, doing this carefully and thoroughly, and if drainage be considered necessary the tube can be adjusted at the upper angle of the wound. When the latter is closed the clamp is again screwed up tightly, the parts above the clamp are cut off, and the stump is surrounded with iodoform gauze. The only caution necessary to mention is the danger of any slipping of the broad ligament out of the grasp of the wire before the latter is finally tightened. This is easily avoided by transfixing the broad ligament with the pins or by holding up the appendages with forceps (if these are removed) and by screwing the clamp thoroughly tight before the parts above the wire are finally removed.

Washing out of the abdomen in a simple case of diffuse hæmorrhage, as in early rupture, can often be done by pouring water from a jug directly into the abdomen, but in such a case as I have been considering, and in a patient with a deep pelvis containing much blood-clot, the use of a syphon tube is more handy and more efficient. By this the stream of water is carried directly to the lowest part of the pelvis, and the upward returning stream washes out the blood-clot. This "washing out" should never be omitted in cases of diffuse bleeding. Besides cleansing the peri-



toneum it is probably a means of conveying some fluid into the depleted blood-stream, and this, followed (after the operation is over) by a nutrient injection containing brandy, and by temporary elevation of the pelvis and lower extremities, is, in my opinion, more useful in overcoming shock and in restoring the pulse than is any attempt at transfusion.

In diffuse hæmorrhage the quickest and directest route to the bleeding vessels is an absolute *sine quâ non* of operative treatment, and there can be no doubt that this is attained by abdominal section above the pubes. In localised hæmatocele and in intact extra-uterine pregnancy up to mid-term, other methods of operation may be employed besides abdominal section, and we shall have to consider vaginal section under its two aspects of posterior and anterior coeliotomy and also the sub-peritoneal incision in cases of anterior tubo-ligamentary invasion. In true retro-uterine hæmatocele, in which the pouch of Douglas is itself distended with blood, posterior vaginal coeliotomy—the direct opening of the pouch of Douglas from the vagina—is obviously the proper method of treatment, and no surgeon would probably dream of any other. Under this condition the operation is very simple. A free incision is made in the middle line, the contained blood and blood-clot are gently washed out by a stream of warm water carried within the cavity, nothing is done to interfere with the upper limiting adhesions or roof of the hæmatocele, and after free evacuation the pouch is drained by a tube or by iodoform gauze. In peri-tubal hæmatoceles which occupy the whole or a greater part of the pouch of Douglas an extension of the same method may be employed with advantage, especially if the bulk of the swelling be evidently within the pouch of Douglas. In this case, however, every aseptic precaution is just as necessary as in an abdominal section, and before beginning to operate the hair of the vulva is shaved and the vulva and vagina are thoroughly cleansed and disinfected.

For this and for the subsequent operation the patient is placed in the "lithotomy" position on a good table, and the vagina is kept open by the valuable self-retaining speculum of Auvar. The surgeon sits facing the vulva of the patient, and there should be a good light directly behind his head. The patient is anæsthetised previously, and is therefore unconscious before any of this preparatory work is begun.

*Operation.*—The uterus is steadied by volsella applied to the posterior lip of the cervix and the posterior vaginal vault is opened behind the uterus with scissors curved on the flat. On reaching the pouch of Douglas blood and bloody serum will probably be found within it. There are, as a rule, no adhesions at the lowest part of the pouch. On inserting the fingers the tumour of the hæmatocele will be plainly felt, and all the lower part of it may be very thoroughly explored, especially if the disengaged hand be placed on the abdomen above the pubes and the examination of the mass be conducted "bimanually." During this examination the blood-clot is usually broken down and the main part of the hæmatocele is cleared away by the vaginal opening. This may be assisted by irrigation from within the pouch of Douglas if the opening be very free and the return current unobstructed. If not it may be wise to restrict oneself to manual or digital removal only. During the process the remains of the pregnancy itself, foetal and placental or molar, may be evacuated, and sometimes the tube containing a mole of pregnancy may be detached from its adhesions, brought outside, ligatured, and removed. It is, however, rarely necessary to do this or to strive after this unless hæmorrhage be still going on. If the pouch of Douglas be thoroughly plugged and drained by a thick pledget of iodoform gauze after the hæmatocele is broken down and cleaned away, nothing more is needed to insure the conditions essential for the safe and complete recovery of the patient. A few cautions may be necessary with regard to the conduct of this simple operation. It should be an

operation of election for certain cases—those are most favourable for its employment in which the vagina is capacious and the tumour is mainly posterior to the uterus. The bladder should be thoroughly emptied immediately before the operation is begun. No violence should be used, the blood-clot and *débris* should be extracted gently. The gauze drain should rest one half within the peritoneal cavity and the other half in the upper part of the vagina, and no portion of it should protrude or be visible at the vaginal entrance. The urine is better withdrawn by the catheter until the drain is removed on the fourth or fifth morning. Two rare but disquieting accidents following the operation are hæmorrhage and severe sacral pain. After a posterior vaginal incision, whether in this operation or in vaginal hysterectomy, it is quite possible to get severe, dangerous or even fatal hæmorrhage. The farther away the incision is from the cervix, the greater appears to be the danger. Plugging is quite sufficient to stop the ordinary bleeding, but in some cases sutures are absolutely necessary. In introducing the tampon of gauze, it is important to avoid pushing the peritoneum in front of the gauze and thus opening up the sub-peritoneal (raw) tissues. Severe temporary sacral pain is a very exceptional sequel to operation, but I have met with two cases in which it was a special feature. I am inclined to think that this is excited by the dragging of the uterus on the partially divided utero-sacral ligaments (or muscles) and that a median antero-posterior opening (when practicable), or a free transverse incision may be preferable to a smaller transverse opening.

Anterior vaginal coeliotomy or, as it is sometimes called, “anterior colpotomy” has been extensively used during recent years in the treatment of peri-tubal hæmatocele due to tubal pregnancy. The vaginal vault is opened between the uterus and bladder, the vesico-uterine fold of peritoneum is divided, and the fundus is drawn forwards by volsella out of the abdomen through the opening thus made. The

uterus and uterine end of the tube on either side are then under the complete control of the operator, and the tube together with any contained pregnancy can, as a rule, be ligatured and removed without much difficulty. But the space in which one has to work is cramped and confined, and while the tube may be easy to remove it is not so with the hæmatocele. This often separates from the tube with traction on the latter and it may be very difficult or impossible to remove it afterwards. Some operators appear to regard this as quite immaterial and leave a considerable quantity of blood and blood-clot in the pelvis and abdomen at the close of the operation, providing no drainage, but trusting solely to the absorptive powers of the peritoneum itself for its removal. If the operation has been performed with perfect cleanliness this confidence may be rarely misplaced as regards the final result, but the patients do not recover easily, there being often considerable pyrexia for several days before convalescence is thoroughly established. The main objections to anterior vaginal cœliotomy as a routine method of treatment are the following: (1) occasional insufficient space for operative work; (2) frequent inability to remove thoroughly and cleanly all products of the misplaced pregnancy; (3) inability to wash out the abdomen satisfactorily; (4) inability to drain through the anterior opening; and (5) occasional inability to extract the uterus without injury, the uterus being enlarged and softened by the changes consequent on the associated pregnancy. It may be noticed that most of these objections will lose a great deal of their importance if the operator, the patient, and her friends, be prepared and ready to accept the possible sacrifice of the uterus in the course of the operation. If the uterus be already diseased or damaged, justifying its removal as an initial step, the space and opportunities thus acquired are ample for all ordinary requirements; there is room for thorough and careful work, the pregnancy and hæmatocele can be completely removed, the pelvis and lower abdomen may be washed out, and at the close of the operation the

most perfect drainage of the pelvic peritoneum can be established by the adjustment of a well-fitting plug of iodoform gauze.

It is, of course, of considerable advantage to the patient to be able to relieve her of her disease without making an abdominal incision, and especially so in cases where drainage is a desideratum, abdominal drainage being frequently followed by hernia. But I am inclined to think that abdominal section, in spite of this drawback, is still the better operation, or rather the better route for operative work, in every case in which a posterior colpotomy is inapplicable or insufficient. By abdominal section the extent and connections of the hæmatocele can be accurately explored, the limiting adhesions to omentum and intestine can be carefully separated or broken through, and the whole of the operation from beginning to end can be performed under the most favourable conditions for manipulation and cleanliness. When operating by the median incision the diseased tube must be thoroughly defined, ligatured, and removed. It will often have to be unrolled from the back of the uterus after the main tumour of the hæmatocele has been taken away, but the adhesions are almost always light and easy to separate. The adhesions of the hæmatocele-capsule to bowel and omentum are, on the other hand, often especially intimate, and when this is the case it is better practice to leave a considerable portion of the hæmatocele-capsule adhering to bowel than to make any attempt at their separation.

Sometimes a lateral inguinal incision may be of service. It is quite possible to treat a large lateral hæmatocele—such as that depicted in fig. 2—in this way, without removal of the tube, and with but very little or no disturbance of the general cavity of the peritoneum. An incision is made above the groin, opening directly into the hæmatocele and pregnancy. The contents are removed without disturbing surrounding adhesions, and the cavity is packed with iodoform gauze.

A very similar method is advocated by Dr. Berry Hart for the treatment of anterior tubo-ligamentary pregnancy at mid-term, and may be followed with advantage whenever the conditions permit of its application. In this pregnancy, as we have already seen, the anterior layer of the peritoneum is raised, and at mid-term as well as at a later stage there is a space either mesially or above the groin on one side which is uncovered by peritoneum. This can be accurately defined by a preliminary incision in the middle line which opens the abdomen. When this has been done a direct incision is made into the sac of pregnancy below the peritoneal reflexion. This extra-peritoneal wound should be large enough to admit four fingers. The foetus is removed at once, the sac tamponaded with iodoform gauze, and the placenta allowed to separate and come away slowly with the discharge.

In tubo-abdominal pregnancy at term there is no difficulty in the removal of the child by an abdominal incision. The crux of the operation is the treatment of the placenta. If this be left, sooner or later it will almost certainly become septic and putrid, and I have come to the conclusion—contrary to the opinion I formerly held—that in all cases of true tubo-abdominal pregnancy it is wise to remove the placenta. A clear idea of its probable relations and attachments will, I feel sure, do much to make this part of the operation easier and to rid it of much of its otherwise alarming features. Wherever the placenta is, there is the Fallopian tube, and it is from this it receives the greater portion of its blood supply. As we have already seen, sometimes the placenta is still within the tube, absolutely surrounded everywhere by tube, and nothing can be easier than to ligature it off and ensure its complete removal without any loss of blood. When it is within the gestation-sac and mostly covered by reflexions of the amnion, no method, I think, can be better than that I employed in the case (No. 33) already reported under this heading.

Accessory vascular attachments to the omentum or abdominal wall are first ligatured and divided, the placenta is slightly tilted up at the most accessible part of its circumference, and forceps are used to clamp its tubal attachments below. The placenta is then removed and the tubal attachments are subsequently ligatured. The most difficult and dangerous form of attachment is that when the amniotic membrane only lines the upper surface of the placenta and all its under surface is attached, not only to the tube and broad ligament but also to the parts adjacent (the condition found in Case 3). Still in this case a modification of the plan already described will afford the best chance of success. Sometimes the deeper attachments (uterus and broad ligament) may be seized before separation by the fingers of an assistant. If not, the most accessible route to the under surface of the placenta is searched for and separation is begun. As soon as possible the tubal and uterine attachments are clamped by the lighter elastic forceps of Doyen, the placenta is peeled off and two or three large sterilised pads are packed into the cavity from which the afterbirth has been removed. Ligatures are applied to the broad ligament and tube, and wherever it is possible by so doing to control the bleeding. Where these are useless packing with iodoform gauze will prove, I believe, the best alternative method for control of hæmorrhage. When this is necessary, if the original abdominal incision—probably mesial—be decidedly to one side of the placental site, it will be wise to finish the operation by making a secondary abdominal incision immediately above the gauze, from which the packing may be readily removed some four or five days later. The very rare condition when the child is abdominal and the placenta intra-ligamentary belongs to a very different category. From a surgical standpoint this pregnancy remains tubo-ligamentary throughout, and is governed by the same laws of treatment which apply to tubo-ligamentary pregnancy.

In tubo-ligamentary pregnancy there is no necessity for the operative removal of the placenta. If the sac be drained the placenta will itself separate and come away with the discharges. This usually takes place without any pyrexia or constitutional disturbance. Let us take the simpler form of tubo-ligamentary pregnancy first—the posterior or retro-peritoneal variety—and consider the operation necessary for its relief. In this the peritoneal cavity is always opened by the abdominal incision. Within the abdomen, full and bulging like a pregnant uterus, is the sac of pregnancy. This is opened by an incision directly underneath the abdominal wound, the edges of this are held against the edges of the abdominal incision, the child is extracted, and after ligature and division of the cord is entirely removed. Now it may be possible to remove the placenta with safety from the interior of the sac, especially when the infant has been dead for weeks or months, and by so doing, if no serious hæmorrhage is occasioned, convalescence may be very much shortened. If there be any doubt, however, if the placenta be full of blood and firmly attached, no interference is necessary. The incision in the sac is sewn to the abdominal wound, the cord is left hanging out of its lower angle, and the sac is drained. I am aware that many modern writers have advised a much more radical and sweeping method of treatment. Dr. Dunning, in the case I have already quoted, proceeded to extirpate the sac, and very naturally, as anyone who studies the specimen depicted in the figure will easily understand, had to complete his operation by removal of the uterus. Fortunately the patient recovered, but I cannot agree with the practice adopted. It is altogether unnecessary, and any temporary advantage secured by it is dearly purchased at the cost of increased danger and extensive mutilation. In the similar case reported by myself (Case 4) and treated by the simpler method of drainage, the patient not only made a good recovery but has since had a normal pregnancy with safe delivery of a healthy child. In the anterior or sub-peritoneo-abdominal form of broad



ligament pregnancy the same remarks apply, but the sac may sometimes be opened at a part uncovered by peritoneum. If some part of the child is obviously almost subcutaneous (and that is most likely to be found on one side of the middle line) the sac may be opened at once and the operation of removal of the child and drainage of the sac conducted without opening the abdominal cavity or seeing the peritoneal membrane. More frequently, perhaps, if the incision has been median, the peritoneal cavity will be opened at the beginning of the operation. If so the displacement of the peritoneum can be accurately estimated (as in the operation for mid-term ligamentary pregnancy) and a secondary incision can be made directly opening the sac, through which the child is removed and drainage established. The mesial exploratory incision is closed by suture.

Now we can return to the consideration of the complicated form of pregnancy in which the child is abdominal and the placenta intra-ligamentary. The main indication in this form would be, as I believe, to convert the complex "tubo-ligamentary-abdominal" pregnancy into a simple tubo-ligamentary one. After the foetus has been removed this may, perhaps, be effected by sewing the laceration of the sac to the abdominal wound. If the opening in the sac be inconveniently situated for this, the (divided) cord may be dropped inside the sac, the edges of the laceration turned in, and the abdominal opening in the sac closed by suture. Then, either before or after closure of the abdomen, a large opening is made by vaginal section into the most dependent part of the sac, the cord is drawn down into the vagina, and the rest of the wound and the lower part of the sac are plugged with iodoform gauze.

Finally, "utero-abdominal" pregnancy may demand very similar treatment or hysterectomy. The abdomen is opened, the cord is ligatured and divided and the foetus is removed. Then, if the cervix be dilated or sufficiently dilatable, the divided cord may be returned through the

utero-abdominal opening into the uterus and through the cervix out into the vagina. The placenta is delivered after it by manual expression and the opening in the uterus is "freshened" and sutured.

If this is impossible or deemed at the time to be inadvisable, the other alternative is to remove the uterus with its retained placenta. This may be done either by clamp or ligature, but the latter is preferable. In this condition there will probably have been no previous hæmorrhage, and if it be necessary to sacrifice the uterus, there is no reason against its complete removal by the modern method of abdominal hysterectomy.

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*CLINICAL CASES.**A CASE OF PSEUDO-HERMAPHRODITISM.*

By ARTHUR MAUDE (Westerham).

THIS case illustrates well the difficulties in the early differentiation of many cases of pseudo-hermaphroditism.

The subject is now  $13\frac{1}{2}$  years old, and has been brought up as a girl.

I have known most of the members of the family for three generations. There are no defects or abnormalities of development among them. The father of this child has been insane, and another child has died of tubercular meningitis.

The general conformation of our subject is masculine ; there is no breast development ; she is tall, and the limbs are stout and strong, while the gait, carriage and voice are those of a boy, as are the disposition and tastes. She never cared for girls' toys, play, or society. In features she resembles her brothers, who are coarse-featured fellows, rather than her sisters, who are delicately pretty and refined. The hair of the head is about 8 inches long and has never grown any more. There is no sign of hair on the face, and the pubic growth is as yet so scanty as to afford no evidence of sex by its distribution.

The genitals show no mons veneris ; there is a penis about  $1\frac{1}{4}$  inches long, rather small for a boy of the age. The glans is well formed, there is no prepuce ; the relative arrangement of the corpora cavernosa and spongiosum are normal. The urethra perforates the corpus spongiosum and glans, and there is no hypospadias. The penis is

connected by a sickle-shaped fold or frænum of skin in the middle line of the posterior surface, so as to be slightly curved. This frænum extends from the frænum præputii to the root of the penis.

From the root of the penis springs a divided scrotum, the halves of which are shut off into two complete sacs connected by an arciform web of skin, which flaps a short way over the genital cleft. This consists of a small vagina which will just admit my forefinger (which is very small) for about 1 inch.

There are no labia majora, and no proper labia minora, but there is a sort of rudimentary flat space like the vestibule in front of the vagina and also behind.

I can feel no cervix uteri, and no uterus through the rectum. The total length of the utero-vaginal canal is 2 inches measured with a sound, and it seems to terminate in a tapering canal above.

There is no hymen.

The divided scrotum contains a gland in each half; the one on the right side is somewhat larger than that on the left; both are about as large as testicles usually are in a well-grown boy of 10 or 12.

Both glands present the shape of testicles and have an epididymis behind each.

No sign of menstruation has appeared. The question of sexual appetite was not entered into.

This is clearly a case of pseudo-hermaphroditismus masculinus internus (to adopt Klebs' classification), with complete and possibly functionally active male genital glands and external organs, side by side with an over-developed uterus masculinus and a patent utero-genital canal.

It seems to be a well-established fact that the external appearance of a masculine pseudo-hermaphrodite will correspond with the type of the external genitals (B. Cooke Hirst in Keating & Co.'s "Clinical Gynæcology," vol. i., p. 256). In female hermaphrodites this does not seem to obtain; the feminine build, breasts and hair are retained,



*A. Maude, del.*

A CASE OF PSEUDO-HERMAPHRODITISM.



in spite of an almost complete approximation of the external genitals to the male type.

"Feminine pseudo-hermaphroditism is, however, very rare, and all cases should be regarded with suspicion" (Hirst).

It is distinctly unfortunate that this child was brought up as a girl. I had personally no voice in the matter, as I never saw the case till three years after birth, and three medical men had decided in favour of adopting the female sex for the child. The evidence was superficially more in favour of this view at the time than it is now, as the testicles were undescended, the scrotum resembled labia majora, and the penis was far smaller in proportion to the development of the vaginal opening. The rule in doubtful cases used to be to have the child brought up as a female, on the ground that concealment of abnormality was easier for a girl than a boy. But this rule is a bad one in face of the unexplained fact of the far greater excess of masculine pseudo-hermaphrodites over female, and the greater social difficulties which, at a marriageable age, will await the male in petticoats than the female in trousers. "It is always better in case of doubt to regard the case as masculine" (Hirst).

Numerous instances are on record of mistakes as to sex which have continued through many years. Carl Hohmann lived for forty-six, and cohabited for twenty years, as a female, and then assumed male clothes and married as a man (Mundi's *American Journal of Obstetrics*, 1876, Mann's "System of Gynæcology," p. 273).

Hirst had seen an individual don his first trousers at 19, when the subject began to grow a beard and manifest sexual inclinations towards his female companions.

The change in relative size of the two sets of genitals, exhibited to a slight degree in this instance, is often seen in pseudo-hermaphrodites, and may take place rapidly. The infant exhibited by Dr. Willcocks at the Pathological Society in 1885, showed at birth a minute penis and a



rudimentary vagina; by its death, at 10 months old, the penis had increased considerably and the vagina had almost disappeared, while testicles had descended into what had been regarded as labia (*Lancet*, 1885, p. 742).

I can find no illustration or description of a male pseudo-hermaphrodite in which such a well-developed scrotum exists side by side with such a large utero-genital passage, though it is very common for female pseudo-hermaphrodites to have a large scrotum (containing ovaries) and a large well-shaped peni-form clitoris (compare the admirable plates in Keating and Co.'s "Clinical Gynæcology," vol. i., p. 256). There is an illustration given by Pozzi of an adult person, however, which much resembles my case, though none of the organs are so much developed.

It is possible that my patient is in a transition stage and that the genital cleft may become much smaller with advancing sexual maturity.

#### A CASE OF UTERUS SEPTUS BILOCULARIS AND VAGINA SEMISEPTA. By FRED. EDGE, F.R.C.S.

ON March 10, 1898, a patient, aged 20, came to my out-patient room. She had been married for a year, and complained of great pain and discomfort on coitus. She had not been pregnant so far as she knew. She began to menstruate at 15; the periods were generally every five weeks, the menstrual discharge was free, and she always suffered great pain before, and during the first day of, menstruation, and in between she had considerable leucorrhœa. No history of severe illnesses. She is tall, well formed, and appears perfectly healthy. Dr. Lycett, who saw her for me, found a septum in the vagina and ordered her to come into the hospital. On examination there is no morbid condition found in the system generally.

The external genitals are normal and well formed. The vaginal introitus is free and of good capacity. About two

inches within the vagina a band is felt passing from before back and dividing the upper part of vagina into two fossæ, in each of which on the inner side a small cervix can be felt.

*Bimanually* the uterus is very broad, and it appears as if a tumour was in the uterine wall on the right side; but there is no distinctly recognisable sulcus anteriorly at the fundus, or posteriorly. The ovaries are normal in size and position, and the tubes can be felt arising from each upper angle of the uterus. *The sound* could not be passed into the cervical canals without giving great pain, and as operation was to be undertaken at once, no protracted or persevering attempt was made to pass it.

The patient was anæsthetised with a mixture of one of chloroform and two of ether administered by means of a Clover's inhaler, without the bag, and was placed in the lithotomy position. Auvard's speculum was passed and the vaginal septum became distinctly visible. This septum was divided with scissors and the resulting wounds on the anterior and posterior walls of the vagina were sutured with catgut. The cervical portions of the uterus were united in the middle line, but the canals and the uterine cavities were quite separate as far as this could be made out by passing uterine sounds into each cavity of the uterus and attempting to evoke a metallic click or causing the sounds to touch through any aperture or defect in the dividing septum. As the uterus was not divided into two (bipartite) and no uterine horns were felt (not bicornuate) nor any distinct sulcus at the fundus, it was considered that there would be small risk of opening into the abdominal cavity if the septum were divided. This was accordingly done with scissors curved on the flat and there was only very slight bleeding. Iodoform gauze was packed into the now single uterine cavity and the vagina to keep the parts from re-uniting. The after treatment was simple and consisted in pulling out the iodoform gauze in six days and putting fresh gauze into the vagina. There was no trouble of any kind. She went home a week after operation.

*April 7, 1898.*—Patient examined.

She has no dyspareunia now. Vagina is capacious at upper end and the anterior and posterior scars are to be felt as pillars in the wall. The cervix has one os somewhat elongated from side to side. The sound passes freely and can be moved from side to side in the uterus, thus showing that both cavities are now united and the septum is lost.

Patient menstruated a fortnight after operation and the pain was markedly less and lasted a shorter period.

The effect on conception, pregnancy and labour must be awaited.

The practical points are that any median antero-posterior septa in the uterus or vagina may be divided without fear of hæmorrhage.

The septum in the uterus must be divided only so far as one can make quite sure by bimanual examination that the walls of the uterus are not cut through and the abdominal cavity opened into.

## REVIEWS.

OPERATIVE GYNÆCOLOGY. By HOWARD A. KELLY, A.B., M.D., Professor of Gynæcology and Obstetrics, Johns Hopkins University, and Gynæcologist and Obstetrician to the Johns Hopkins Hospital, Baltimore, &c. 1,108 pp., with twenty-four plates and over five hundred and fifty original illustrations. In two volumes. New York : D. Appleton & Co.

We have already referred to the first volume of this work in the May number of the Journal, and must repeat the opinion we then expressed of its importance, not only from the point of view of the advanced and original gynæcological teaching, information and operative details that it contains, but also for the beauty and accuracy of all its illustrations, anatomical, clinical and pathological. We in no way exaggerate when we assert that no surgical work we have ever seen in any way approaches, from the illustrative standpoint, these volumes of Dr. Howard Kelly's. Our readers must examine them for themselves, in order to appreciate the perfection with which these illustrations have been produced. They are the outcome partly of photographs, and partly of sketches made by the author on the spot at operations or immediately afterwards. Messrs. Max Brodel, H. Baker, and A. S. Murray have mainly contributed these illustrations, the latter *collaborateur* having furnished the author with over 1,600 photographs. The author acknowledges his indebtedness to several of his colleagues who have assisted him in the preparation of the text, and it is interesting to note particularly that it is to a lady, Dr. Mary Augustus Scott, that he expresses his

chief indebtedness, as to her "constant, kindly, stimulous and friendly help, more than to any one else, the work owes its existence." She "arranged, revised and edited the book." One hundred and fifty-eight pages of the first volume are devoted practically to the preparations for operation, topographical anatomy, and all the necessary steps for completing a diagnosis by a thorough examination of a case. Here we may notice that Dr. Howard Kelly, in common with other distinguished gynæcological operators, is a firm believer in the absolute necessity for the strictest observance of the most minute attention to all antiseptic and aseptic details preparatory to, during, and after an operation. And as there seems still to be a confusion of ideas existing in the minds of some between the terms "asepsis" and "antisepsis," it may be well just to quote the terse definition of these terms as given by Dr. Howard Kelly :—"Asepsis in a certain sense is the absence of septic germs ; and a septic wound is one which remains free from invasion by these germs in sufficient number to disturb the healing process." "Antisepsis is a term used to designate any active means whatever by which septic germs are removed, destroyed, or rendered inactive." It is therefore clear that antisepsis is an essential step towards securing complete asepsis ; this, whether we use hot air, steam, boiling water, or chemicals. *What is understood generally as "cleanliness" is not asepsis.* We cannot boil, subject to steam, or to a temperature of 400° F., our hands and arms, yet these are the known means for bringing about the destruction of the pathogenic bacteria, and those organisms which tend to cause suppuration in wounds, as of those virulent pyogenic germs, which are associated with septic processes. The difficulty of complete exclusion of such germs has been tested and proved. That it cannot be done by the most elaborate washing of hands, arms, instruments, appliances, and dressings, cannot be disputed. These, however, are the means of introducing such germs into wounds. A septic process arising in the course

of such wounds is the consequence, and the probable death of the person is the result. Antiseptic chemical agents enable us to secure in our hands and arms, in the operating room, and, by the agency of steam and certain chemical vapours, in our clothes, the absence of these death-producing organisms. The surgeon who introduces a finger or hand on which such germs may lurk into a wound, or who, neglecting to remove them from the skin or genital organs of the patient, allows them thus to enter wounds, must indeed feel uncomfortable if a fatal issue should result from his interference. And be it remembered that the more prolonged the operation, the greater the lowering of the vital power of resistance, the more severe the bruising and laceration of the tissues, the greater is the danger from such introduction, and the less hope there is that septic changes may not occur.

In this portion of the work the reader will find full directions for the sterilisation of all dressings, sponges, compresses, and the disinfection of the hands and arms. The author gives the preference after thorough cleansing of the hands to the use of a hot saturated solution of permanganate of potash, followed by decolourisation by oxalic acid, and the removal of the latter by immersion in sterilised lime water, and final re-washing with sterilised water.

The advantage of the bimanual method of examination is admirably demonstrated by a series of drawings, and there are some valuable directions for manual pelvimetry, and for the differentiation of various diseased conditions of the pelvic organs. Gynæcologists generally will agree with the author's teaching when he says, "I cannot emphasise too much the extreme importance of a routine use of ether or chloroform anæsthesia to the point of complete relaxation in investigating intra-pelvic disease." As he well shows, preliminary use of an anæsthetic, by permitting an examination which cannot possibly be conducted in the same manner without it, will save years of

useless palliative measures, resulting in the ultimate discomfiture of the patient and injury to the reputation of the surgeon.

The methods of examining the rectum by palpation and inspection are dealt with. The author, for the latter object, places the patient supported by uprights and straps in the genu-pectoral position, while he uses a head mirror and electric lamp for inspection through a speculum. Another very important direction is that for examination of the vermiform appendix. "To find it, the patient lies with the abdomen bare, and knees and thighs flexed without effort, and the examiner, standing at the patient's right side, makes pressure inwards in the right semi-lunar line just below McBurney's point. He increases the pressure gradually until the posterior abdominal wall is reached, the fingers keeping up the pressure then glide in a direction downwards and outwards towards Poupart's ligament, until a delicate cord-like structure is felt to slip beneath them. The manœuvre is then repeated a little higher up, and then a little lower down, changing the position until the length and direction of the appendix are ascertained." A loop of intestine, or some muscular fibres in the abdominal wall, are sources of error, but the examination may be assisted by placing the patient in the knee-breast posture, when the small intestine falls away, and the more superficial muscular fibres are recognised. Of course certain conditions, such as exudations and adhesions to the Fallopian tube and ovary, make such an examination more difficult.

The method of resuscitation from threatened death from chloroform pursued in Dr. Kelly's clinique is as follows : An assistant jumps on the table and seizes the legs of the patient below the knees, so raising the body to an angle of from 40 to 45 degrees. The body is thus supported on the shoulders, while the head is extended over the edge of the table. The surgeon now stands over the extended head, and placing both hands outspread on the chest

posteriorly, draws it forwards towards him, and then, by a reverse movement, placing them on the sides of the chest wall in front and pressing backwards, he produces an act of expiration, consecutive to that of inspiration caused by the first *manœuvre*. Another assistant meanwhile presses on the epigastrium to prevent the effects of the respiratory movements being lost on the abdominal viscera. Dr. Kelly evidently prefers ether for his operative work. In 8,500 administrations he has lost two patients from the anæsthetic. In one case the patient, aged 40, had had an adherent ovarian cyst removed; the operation lasted forty minutes, and she died as the wound was being closed. The other patient was operated upon for adeno-carcinoma of the uterus by hysterectomy. She was an exceptionally obese woman, and the operation lasted two hours. He lost one case in 1,500 administrations of chloroform. The patient, a coloured woman, had taken chloroform before, and objected to ether. She died before the operation began. There were, however, evidences of pulmonary disease, calcified costal cartilages and atheromatous vessels found at the autopsy.

It is our experience that every form of gynæcological operation can be done with ether, or nitrous oxide gas and ether. And though most operators on the continent, and many in the United Kingdom, still prefer chloroform, yet neither from the point of view of sickness, nor of abdominal movements, *if ether be well administered*, have we any objection to it, while its comparative safety gives to it an advantage over chloroform that cannot be disputed.

In his chapter on plastic operations the author gives some valuable hints as to their after management, and none are more so than his insistence that the utmost care should be taken to deal with the healing wound by means only of sterilised forceps, the early treatment of any signs of discharge, and the avoidance of touching vaginal or uterine sutures for as long a time as possible. This specially applies to sutures of silkworm gut used in plastic operations and the perinæum and cervix.



Having dealt with general principles, the author proceeds to touch on the various conditions of the external genital organs that may demand plastic repair. The original drawings illustrating this portion of the work are among the finest it contains. In severer cases of pruritus vulvæ, the operation of Sânger—of excision of the diseased area—is advised.

Dr. Kelly devotes 210 pages to the consideration of affections of the urethra, bladder and ureters. This is the part of his treatise that bears more the stamp of original thought and investigation than any other. In fact, chapters xii. and xiii. would in themselves form a most valuable and instructive volume. Here we have thoroughly explained the author's methods of examination and exploration of the bladder and ureters. These methods are now familiar to British surgeons. They have undoubtedly opened up means of diagnosis in vesical and ureteral diseases not hitherto available, and they enable the surgeon with certainty to differentiate not only a vesical from a renal morbid condition, but also to pronounce if it be unilateral or bilateral. In this way we may not alone view and directly inspect diseased states of the bladder mucosa, locate the ureteral orifices, catheterise and explore these, but we can analyse the separated urines from the two kidneys, and definitely determine the organ to be operated upon in cases of difficulty of diagnosis. It also furnishes a means of protecting the ureter in difficult cases of hysterectomy, the author's bougie being passed into the ureter before operation, and thus furnishing a guide to the duct during its performance. All these steps, as also the appliances used in carrying them out, are fully illustrated by engravings and plates. The descriptions of stricture of the ureter, ureteral calculus, ureteral fistula, tubercular ureteritis, and hydro-ureter, are specially valuable and practical. It is right here to refer to Dr. Köllischer's new cystoscope for exploration of the bladder and ureters. By this instrument we have recently seen Dr. Köllischer, in Professor Schauta's

*Klinik* in Vienna, pass ureteral catheters and perform various manipulative procedures inside the bladder. Certainly by its means all that can be effected by the author's method can be attained. The last sixty pages of vol. i. are devoted to operations on the cervix uteri, cancer of the cervix, prolapse of the uterus, vaginal hysterectomy, and inversion of the uterus. Dr. Howard Kelly uses forcible dilatation previous to curettage—a Goodell-Ellinger dilator.

As to the danger of dilatation, of which so much has been written, it may be said that in rash or unskilful hands there are dangers attendant both on the tent and the forcible methods. We believe that skilful, progressive and aseptic dilatation by tent, properly carried out, and in some cases completed, if necessary, by large olive-shaped metal bougies, is as safe a gynæcological procedure as can be wished for, and it is by far the best for the practitioner to resort to.

We can only here refer to a matter of considerable practical moment bearing on vaginal hysterectomy, and mentioned by Dr. Howard Kelly. The entire question of "which way" will be better dealt with in discussing the contents of his second volume, where the surgery of the uterus and its morbid growths is more specially treated of. There can be no question that in Paris, Berlin and Vienna the vaginal procedure is gaining ground over the abdominal in all cases in which the method is feasible. We think the author's dictum to be absolutely sound in cases of cancer: "By the vagina only the uterus and little or none of the adjacent broad ligaments can be removed, and so carcinomatous tissue is often left behind which might have been removed by a more careful resection from above." One of the most distinguished of continental operators recently remarked to us at the close of such an operation, the uterus being comparatively small, but the infiltration extensive and hard at each side, "It is doubtful if such cases should be operated upon." Certainly we should say so—*by the vaginal way*. The only chance we consider of complete extirpation is by laparotomy.

Dr. Kelly follows several continental operators in closing, as the first step in the operation, the cervical *lips*, using the ligatures as tractors, so as to prevent escape of the uterine contents during the later stages of removal. He uses ligatures. Here we may remark on the gradual preference given, even by old advocates of the clamp, to ligatures for hæmostasis. This is so in the Vienna *Frauenkliniks* of Schauta and Crobak. The same remark applies to the Berlin *Frauenkliniks*, with the exception of that of Landau. Doyen is now using ligature. Such operators as Terriere and Hartmann likewise adopt ligature.

Kelly well insists that at the conclusion of a vaginal hysterectomy two things have to be always made clear: first, that every bleeding point is secured, and nothing "taken for granted" *until all the exposed part is perfectly clean and all oozing controlled*; second, that the packing of the space between the broad ligaments is most carefully done with strips of iodoform gauze at least 18 to 20 inches long, and some 3 to 4 inches wide. These sizes are somewhat larger than the author's. We think that it is safer to err on the side of greater length and width, so that the gauze may not be too loosely carried up to support the intestines while the vagina is more firmly packed below. There can be no doubt that, if we want to avoid after-trouble from silk sutures and ligatures, it is best to leave them long and remove them at the end of the second week or later, and not chance their coming away. But there are so many points of interest in respect to the subject of hysterectomy in its entirety, that we must postpone allusion to several disputed points dwelt on by the author until we come to notice his second volume, which is of even greater interest to the operative gynæcologist than the first.

H. M.-J.

ON MATERNAL SYPHILIS, INCLUDING THE PRESENCE AND RECOGNITION OF SYPHILITIC PELVIC DISEASE IN WOMEN. By JOHN SHAW-MACKENZIE, M.D.Lond. J. and A. Churchill.

The author's well-known views on this very important subject, and which he very justly notes is too often overlooked by those practising gynæcology, are here fully elaborated; hitherto they have found vent only in the columns of the medical journals. In close intercourse with the veteran syphilographers, Henry Lee and Berkely Hill, Dr. Shaw-Mackenzie may claim the right to speak with authority on the question of syphilis generally, and by his later writings especially, on its effect on the pelvic diseases of women. Early in the work he hints at the general tendency "to the attenuation of the syphilitic virus," which he considers modifies and lessens the severe manifestations of the fell disease such as were met with in former days. He insists upon the latent, almost lost, symptoms being brought into virulent activity by conception, and even somewhat re-lit at each menstrual period, and more especially at the menopause. His enthusiasm occasionally makes him rather assume the advocate, and he enforces evidence for his views that many of us would be hardly inclined to accept. He adduces, for instance, the success of the perchloride and biniodide of mercury in uterine diseases as a guarantee of their specific origin, and does not allow of their value in hyperplasias from other causes, or the great service the former drug renders as a general tonic. It must be said, however, that the author justifies his argument by detailing notes of over 200 cases bearing upon his views. The book is most readable, and its ideas very cleverly put; it should meet with a very successful career.

## SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

### GYNÆCOLOGICAL.

SUTURE OF THE ABDOMEN AND HERNIA OF THE ABDOMINAL SCAR. By ABEL. *Archiv. für Gynäkologie*, vol. lvi., sec. 3, p. 656.

This is a paper of great extent and detail and contains some very useful bibliographical *resumés* on nearly every point in connection with the subject of the paper. The development of the abdominal suture is described, and the story begins with the making of the incision in all its varieties; the length of the incision is next taken, and the height and position of the incision. The question as to whether the incision should be enlarged to the pubic arch or towards the umbilicus is discussed, and the fact mentioned that a preponderance of incision herniæ are at the lower part of the wound. The peritoneum is stitched to the skin by some surgeons to keep the opened tissues clean and to prevent oozing. Control of hæmorrhage and the spreading of the omentum over the bowels are recommended. The closure of the incision is given very fully as to the procedures of different surgeons. They are arranged in groups of (1) mass-suture, (2) quill or plate suture, (3) isolated peritoneal suture, (4) suture in stages or layers, (5) isolated suture of fascia.

The suture material is a subject which leads to much discussion and many experiments, and still we have not reached our aim by many stages; for stitches to be removed in a week or more, silkworm gut has steadily established its character as the most useful material. Silk is the best material to work with, and were it only absorbable, the question of buried sutures would be practically settled. Catgut is easily absorbed and hence it is not liable to produce mechanical irritation months after the wound has healed by primary union, but the difficulty of sterilising and re-sterilising it during operation and its too quick solubility render it an unfaithful servant.

The deep sutures should enclose sufficient muscle and fascia to prevent the antero-posterior face of the wound being

diminished, *i.e.*, they should spread out this surface and thus increase the area of apposition. Sutures passed close to the wound surface are useless, since they diminish the wound surface when tied. The number of deep sutures per certain length of incision varies with different surgeons from about 6 to 1.5 per 2 inches. Too frequent deep sutures may injure the blood supply, while too few may cause serious weakness and hernia. Quilled sutures, or those attached to plates, were advocated by Spencer Wells and Olshausen, but they are practically given up at present. The inclusion of the peritoneum strongly urged by Spencer Wells was at first not accepted by the German surgeons, but is now universal.

The points of discussion are, as to how much peritoneum should be picked up, whether to be included in general suture or separate peritoneal suture, whether drawn deeply into the wound. The general conclusion is to pick up the peritoneum near its cut margin and close it with a continuous glove stitch, and then drop it so that it may take no part in the real cicatrix. Interrupted fine silk sutures may be less liable to injure vitality of peritoneum and spread any infection.

The suture in layers is rapidly winning the first place and Billroth is given the chief credit of this method, which is practically the method of Bassini for radical cure of hernia. The *unsettlement* (?) in this method is the indecision as to whether the muscle suture or the isolated fascia suture is the better. The fascia suture has been specially advocated by Gill Wylie, and many surgeons are fully convinced of its necessity, but it is not so easily worked out in practice. Some unite the cut posterior fascia with a buried suture. Others go through the rectal sheath and then join the anterior and posterior layers on their own sides of the incision, afterwards stitching them together so that the muscle is quite excluded from the wound.

The muscle suture is practically the commonly used one, although it is said to injure the muscle and prevent its perfect contraction in support of the linea alba. The idea of some surgeons in splitting each rectal sheath and suturing the recti muscles broadly together, is based on the theory of increasing the antero-posterior depth of the incision and of having contractile tissue over the wound.

The skin sutures are modified by avoiding the skin (Kendal Franks) and passing the sutures intradermically. Casati has a very similar modification. Pryor, of New York, recommends in fat persons suture in layers of the peritoneum, fascia and muscle, and the leaving of the fat and skin unsutured to granulate up.

*Tying of the Sutures.*—Deep sutures were formerly tied more tightly than at present, so that they might be buried in a groove

of peritoneum. When sutures are tied too tight the recti are injured, and way is made for hernial weakness. A valuable procedure here is that of expressing all air from the abdomen before the sutures are tied. The dressing in the pre-antiseptic days was actually of use in strengthening and supporting the sutures, nowadays it serves more to prevent infection of the wound. A fair amount of support and moderate padding are very comforting in some cases, but if too tight, ileus and adhesions of the bowels may result. Infection of the abdominal incision is very grave as regards hernia, and may often cause death in cases which have done well for weeks. Malignant infection or implantation of the wound surface has occurred.

*Removal.*—The sutures are removed at all dates, from the sixth to the fourteenth day, but probably the use of silkworm gut will lengthen their stay, since these sutures seldom lead to stitch abscesses. It is to be noticed that Spencer Wells removed sutures on the seventh day.

Bursting of the abdominal wound is generally due to general sepsis, the use of catgut, infection of the wound, meteorismus, trophic disturbance in the wound. It is noteworthy that this accident usually occurs late, only in five cases out of 33 did it occur in the first week caused by early removal of stitches, or coughing soon after operation, as seen by Christopher Martin. The prognosis is not as bad as might be expected. The treatment is support and re-suture. Fewer cases of bursting open are published, but whether this means that fewer cases occur is another matter.

*When should Patients get up?*—Martin allows patients to get up on the tenth day, but all evidence points to a three weeks' stay in bed, especially in debilitated women, as the proper thing.

*Abdominal Belts afterwards.*—There is a tendency among those who close their incisions carefully in three layers to do away with belts, and no doubt there is but small proof of any benefit these belts confer on their wearers, yet they are so much the fashion that not many English surgeons will face the countermanding of them and lose the facile excuse they give the surgeon when a neglectful (?) patient returns with an incision hernia. The cautious young surgeon had better order a belt.

*Incision Hernia.*—The frequency of incision hernia is so differently stated that it can only be explained by the absence of any agreement in the definition of such hernia. The separation between firm cicatrix, simple stretching, over stretching, hernia-like protrusion and true hernia is difficult to make. True hernia is rare, and the condition is more often one of yielding cicatricial tissue. Hernia arises when the fascial layers have not been properly united, and when the wound has suppurated, and a consequently thinner layer is formed.

Only those scars are considered firm which remain free from any protrusion when the patient stands up and coughs. Even this does not settle the matter unless the finger be carefully used, since numerous fine omental herniæ may be missed by the eye but are palpable to the touch.

Prochownick says that incision herniæ occur as follows: four-sevenths in first year, two-sevenths in second year, and one-seventh in third or later year after operation.

When the hernial aperture does not admit a finger it will be found that the patient has not usually noticed it, that is, it has not caused her any trouble.

*What favours Incision Hernia?*—Olshausen says, that whenever a drain, whether tube or gauze, has been used, hernia follows, because union by first intention has been prevented. Bantock denies this. (I have seen numerous instances of it.) Extra-peritoneal treatment of the stump favours hernia of the sac exceedingly. Incomplete closure of the parietes when portions of cyst wall are left, is favourable to hernia formation. Hernia is very apt to follow on operation for its cure, that is, it relapses. Drainage for tuberculosis favours it. When considering the influence of the various methods of suture on the firmness of the scar those cases must be excluded where suppuration took place.

The figures for incisions healed by primary union are:—

With inclusive sutures ...	61 cases, 18 herniæ =	29 per cent.
„ muscle suture ...	25 „ 6 „ =	24 „
„ fascia suture ...	224 „ 20 „ =	8.9 „

The cases of isolated fascia suture show slight variations, according to the preparation of the suture material.

With chromic acid catgut	85 cases, 7 herniæ =	8.3 per cent.
„ sublimate alcohol catgut	30 „ 3 „ =	10.0 „
„ xylol... ..	59 „ 7 „ =	11.9 „
„ cumol ... ..	50 „ 3 „ =	6.0 „

These figures prove the superiority of isolated fascial suture, which is still more strikingly evidenced by the figures for multiple herniæ.

With inclusive sutures ...	61 cases, 6 herniæ =	10 per cent.
„ isolated fascia suture	224 „ 4 „ =	1.8 „

After infection of the incision:—

With inclusive sutures ...	50 cases, 34 hernia =	68 per cent.
„ muscle ... ..	27 „ 18 „ =	64 „
„ fascia ... ..	52 „ 16 „ =	31 „
„ superficial suppuration	33 „ 15 „ =	45.5 „
„ deep suppuration ...	16 „ 13 „ =	81 „

The herniæ increase with the duration of suppuration. From this it is certainly proved that the firmness of the cicatrix is most grievously affected by suppuration, and that an uninterrupted healing is a necessity for a perfect cicatrix.



General fever (pneumonia, &c.), during the convalescence, does not affect the firmness of the scar if primary union is not interrupted; this interruption of primary union from general fever and the resulting herniæ are more common with the suture in stages than with the interrupted sutures. This refers to cases where the wound is not infected locally, but through the blood.

The constitution of the abdominal wall has influence on the proportion of hernia. The thicker the fat layer (the thicker the wall) the greater the percentage of hernia.

Mere vigour of body does not seem to give any advantage as regards the percentage of hernia after primary union, but it does in the case of infection of the wound. Anæmia, whether due to loss of blood before or during the operation, had no appreciable effect on the occurrence of hernia. Age has a very slight effect, those under 20 having a slight advantage over those over 20, but those over 50 are better than those between 20 and 35.

Slackness or tightness of the parietes are difficult to estimate, but judging by multiparæ, and the various multiparæ, Abel finds that the best results are given by the multiparæ over 50 with slack abdominal walls. Abel concludes that the consistence of the walls only influences the occurrence of hernia by rendering easy or difficult the suture of the fascia.

The size of the herniæ varies with the suture: the more careful the suture of the fascia the smaller are the herniæ. The length of the incision naturally affects hernial origin in proportion to its increase. Vomiting and coughing are injurious in proportion to their continuation.

In the case of primary union the peritoneum is firmly healed in seven days, the muscle and fascia in fourteen days, and the skin in eighteen days. Hence the patient, in case of primary union, may get up on the eighteenth day or middle of the third week.

A binder or belt has not any certain influence in preventing hernia, but it limits the size and has a certain mental effect and reasonable cause for existence and use.

The recommencement of work of course influences occurrence of hernia, and with severe work this is marked in the case of scars healed by primary union. Here, as with the omission of a belt, the patient feels so well that she begins her severe labour much earlier than she would otherwise, and thus often causes hernia.

Abel does not think that pregnancy has such an effect on the scar as has been generally held, and he rather believes that very often the pregnancy enlarges and makes evident hernia present before. The adherence of the omentum to the back of the scar accounts for the number of cases of small irreducible omental herniæ.

*Position of Hernia.*—Most below, but better to say ends of incision are weakest places, it depends where drainage tube or stump came out of wound. The arrangement of the fasciæ below and behind the recti above the symphysis pubis perhaps explains the frequency, at the lower end, of herniæ. The hernia is not through the scar itself, but immediately adjoining, and may be explained by the unequal dragging of the scar on the fibres of the fasciæ; this applies especially at the ends of the wound.

*Pain and Troubles.*—Generally small herniæ cause less trouble than big ones, and those containing omentum less than those containing bowel. The larger the hernia in proportion to its neck the more the trouble. Stretching of the scar does not give so much pain as it does a feeling of weight and dragging. August Martin advocates strapping and teaching the patient how to renew it herself. This is instead of or in support of belt.

*Operations for Incision Hernia.*—Many operators do not open the peritoneal cavity, but split the skin and stretch the margins of the wound together over the hernia, which is pushed inwards. In big herniæ the overstretched thinned covering should be removed. The suture varies as with the original suture. Various splitting of the fascial and recti muscles are used, but the suture in layers is perhaps the best. Recurrence in the case of large herniæ is very common.

*Firmness of the Scar in repeated Abdominal Section.*—Some go through the first scar on reopening the abdomen, others cut the old scar out, and if an incision has to be made not in the line of the old one, the second incision should be removed as far as is convenient from the old scar to prevent malnutrition of the tissues. If the old scar lessens the antero-posterior depth of new incision, it is better to excise it and suture in layers. The conclusion is, that suture of fascia is the only true method, and when this is combined with the suture of like to like in the tissues, a perfect union is obtained. The fascia suture must be interrupted to prevent any infection spreading. A clean median cut, avoiding the rectal sheaths and closed by interrupted fascial sutures, is the most natural procedure. Asepsis of the wound and consequent primary union is most important. As regards appearances, Kendal Franks' intra-dermal suture of skin is not a certainty, since the linear scar in young women with firm walls always spreads out afterwards. The thing to avoid is the cutting through of deep sutures, which leaves ugly radiating marks. The mass suture is not sufficient. Suture in layers takes more time, but this is not lost when we get 4 per cent. of herniæ instead of 30 per cent. by the mass suture. The advocates of muscle suture must produce results and figures to beat those of the fascia suture.

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Finally we see that Martin's utterance "that the condition of nutrition of the patient, his labour, the tone of his tissues, are the deciding factors as regards hernia," is not borne out by analysis of cases, but that the method of suture and of healing of the wound are the deciding factors, and hence that whether an incision hernia occurs or not depends not upon the patient but upon the surgeon.

F. E.

AN IMPROVEMENT IN THE TECHNIQUE OF THE AFTER-TREATMENT OF PERITONEAL SECTION. By HENRY T. BYFORD, M.D. (Chicago). *The American Journal of Obstetrics and Diseases of Women and Children*.

The author looks upon intestinal paralysis as more often the cause than the result of septic peritonitis. When the intestines are paralysed a slight infection has a chance to develop and sepsis can find its way through stretched intestinal walls.

The condition of the patient, according to the author's experience, has always rapidly improved when flatus could be made to pass freely through the rectum. This could almost invariably be accomplished if the attempts at it were begun early enough. The exposure of the peritoneum to air, the handling of the viscera, and the production of raw surfaces all lead to intestinal adhesions and more or less intestinal paralysis. The following treatment systematically adopted by the author is directed to the prevention of adhesions, paralysis and sepsis.

The day before a peritoneal section, the patient is dieted and purged sufficiently to reduce the gaseous distension of the intestinal coils. Two hours before the time set for the operation a mild but efficient cathartic is given, such as two teaspoonfuls of the fluid extract of cascara. As soon as the patient wakes from the anæsthetic a drachm of sulphate of magnesia in an ounce of water, or an ounce and a half of the liquid citrate of magnesia, is given every hour and repeated immediately whenever vomited. Six hours after the operation a stimulating enema is given, such as two ounces of glycerine and four of water and repeated every two or three hours until flatus passes freely between the enemas.

Since the author adopted this treatment he has had 105 consecutive recoveries after peritoneal sections.

THE SURGICAL TREATMENT OF IRREDUCIBLE RETROFLEXION OF THE PREGNANT UTERUS. By MATTHEW D. MANN, M.D. (Buffalo). *Amer. Journ. of Obstetrics*.

In this paper the author advocates that, in a case where the surgeon cannot replace the incarcerated retroverted gravid uterus, he should not empty the uterus, but rather abdominal section should be performed and the uterus replaced from above.

Efforts at replacement through the vagina fail, not because the uterus is too large to be forced through the pelvic brim, but because, filling completely the pelvic cavity, when it is pushed up nothing can enter from above to take its place, so that its progress is limited; and the moment pressure is withdrawn from below, atmospheric pressure forces the uterus down again into its old false position. It can only be got up by letting the air in behind it. The author records two cases successfully treated by him by abdominal section. After opening the abdomen he replaces the uterus and closes the abdomen. He therefore advocates this procedure in preference to emptying the uterus.

**PUS IN THE PELVIS.** By JOSEPH TABER JOHNSON, M.D. (Washington). *Amer. Journ. of Obstetrics*.

In this paper the author records twelve cases, as examples of different varieties of pus in the pelvis, treated by vaginal section, irrigation and gauze drainage. He is convinced that this method has advantages over cœliotomy followed by difficult and prolonged enucleation of pus sacs. In operating on an abscess from the vagina it is not necessary that the abscess sac must impinge against and be adherent to the vaginal roof, so long as drainage is maintained free from obstruction. There is less danger of infection of the abdominal cavity when vaginal is substituted for abdominal drainage. The author insists on a large opening from the vagina, on the tearing out of the bottom of the abscess, copious irrigation and gauze packing. Pus sacs may be safely opened when within reach of the examining finger, the alternate hand making pressure from above as in bimanual palpation.

On examination, however, of his twelve cases, a summary of which is given below, we find that all the pus cases are apparently large pyosalpinxes except one, which was a suppurating hæmatocele. Four of the twelve are hysterectomies, not for pus but for other causes.

(1) "Sac of pus in the pelvis," gonorrhœal origin, opened by forceps from vagina; (2) "Abscess high up on the right side," opened by forceps from vagina; (3) "Abscess fluctuating very distinctly from vagina," treatment same as one and two; (4) "Abscess behind uterus, fluctuating from vagina," opened by forceps from vagina; (5) "Abscess behind uterus, fluctuating from vagina," opened by forceps from vagina; (6) "Suppurating hæmatocele," opened from vagina—free hæmorrhage—had to rely on gauze packing; (7) "Pyosalpinx," opened from vagina by forceps; (8) "Vaginal hysterectomy for pain and hæmorrhage"; (9) "Vaginal hysterectomy for infection of uterus by

sloughing fibroid"; (10 and 11) "Vaginal hysterectomy for pain, nervous symptoms and hæmorrhage"; (12) "Twice operated upon from vagina by forceps for pus in Douglas' pouch."

All these cases made complete recoveries. Numbers 7 and 12 were very ill indeed, suffering from general septic poisoning before operation, and were not in a condition to stand a severe abdominal section.

Experience proves that with the complete discharge of the offending pus, irrigation and free drainage through the vagina, the patient will get entirely well. The peritoneal cavity, being walled off by adhesions, is not opened. The removal of the uterus, as a rule, in the class of cases above reported, seems to the author to be going a step too far. In the small number of cases where its removal is necessary it is better to remove it through the vagina.

Removal of the abscessed organs themselves is not necessary to a symptomatic cure; a complete and permanent restoration to health is the rule; a secondary operation later on is the exception.

PREGNANCY FOLLOWING VENTROFIXATION, WITH IMPROVEMENTS IN THE TECHNIQUE OF THE OPERATION. By A. LAPTHORNE SMITH, M.D., London, Fellow of the American Gynæcological Society, &c. *Amer. Journ. of Obstetrics.*

In this paper there is an exhaustive review of the cases of ventrofixation performed in America. After dwelling upon the relative advantages and drawbacks of ventrofixation, and ventrosuspension, and Alexander's operation, the author reports replies to 100 circular letters sent out on May 10, 1898, to prominent physicians in America, asking them if they knew of any cases of pregnancy following ventrofixation, and if so how many, and how many went on to normal confinement, and how many had met with accidents which might fairly be attributed to the ventrofixation. One hundred and forty-eight cases were reported in which the uterus had been firmly fixed to the abdominal wall, pregnancy followed, and in thirty-eight, *i.e.*, in 30 per cent., there was trouble at the confinement due to the ventrofixation.

After considering the evidence he concludes:—

(1) That as far as curing retrodisplacement, either retroflexion or retroversion or anteversion with retroversion is concerned, ventrofixation with two buried silk stitches through the peritoneum and fascia gives the most reliable results. Failures are unknown when the operation is performed in this way.

(2) Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as the

detaching of adhesions and the removal of the diseased tubes which cause the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because—

(3) When the uterus is firmly attached to the abdominal wall and pregnancy follows, trouble of some kind, either pain, miscarriage, or difficult labour, requiring obstetrical operations, takes place in about 30 per cent. of the cases.

(4) When *suspensio uteri* was performed, *i.e.*, the uterus attached to the peritoneum of the abdominal wall, a few relapses occurred, but to counterbalance this objection the patients were free from pain during pregnancy, and the labours were less tedious, neither did they require resort to serious obstetrical operations. The uterus should, therefore, be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain.

(5) A third method, it is claimed by some, *viz.*, the intra-abdominal shortening of the round ligaments, is preferable to either ventrofixation or *suspensio uteri*. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube, or in cases in which the latter are not removed, simply to detach them from adhesions and shorten the round ligament by drawing up a loop of it and stitching it to itself for a space of about 2 inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30 per cent. of the cases of ventrofixation are certainly avoided.

(6) If the uterus is attached to the abdominal wall the stitches should be kept on the anterior surface, but near the top of the fundus. The complications were more frequent when there was too much anteversion than when the anterior surface of the fundus was attached to the abdominal wall.

(7) As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

(8) Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labour unfavourably influenced by it. Alexander's operation should therefore be preferred whenever the uterus and appendages are free from adhesions.

(9) The results of Alexander's operation are so good that even when there are adhesions it may be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method,

after which the abdomen should be closed. This can be done without adding more than one-half of 1 per cent. to the mortality, which in Alexander's operation is *nil*.

VAGINAL ABLATION IN PUS CASES. By W. R. PRYOR, M.D.,  
New York. *Amer. Journ. of Obstetrics*.

The author here describes his method of removal of the uterus in cases where both adnexa have to be sacrificed. He divides his difficulties by splitting the uterus. He makes an anterior and a posterior incision, not completely encircling the cervix, but leaving an eighth of an inch of vaginal mucous membrane between the sides of the incision. This is left to preserve intact the base of the broad ligament containing the uterine arteries, which can be secured by the lowest pair of forceps. The bladder is separated from the uterus, and if possible the posterior *cul-de-sac* is entered.

The uterus is now pulled down and the anterior wall incised in the middle line; by gradually pulling and cutting, the fundus is reached. By means of the finger, adherent omentum, intestines or adnexa are separated from the posterior surface of the uterus in the middle line. A retracting director is now passed up behind the uterus along the track made for it by the finger. This will push the uterus further forwards than it can be pulled by the forceps. A special bistoury is introduced and the uterus cut in two halves. One half is pushed up into the pelvis, secured by two forceps. This proceeding facilitates the enucleation of the adnexa. By drawing the other half of the uterus down into the vagina, several fingers or even the whole hand can be introduced into the pelvis to enucleate the appendages. After freeing one ovary and tube they are left alone and the corresponding half of the uterus shoved up into the pelvis. The other half is brought down and the appendages of that side enucleated. This freed ovary and tube are pulled up above and anterior to the cornu by Luer's forceps and the ovarian artery clamped. This is the first pair of forceps applied. It is put on from above down. In applying the forceps in this way the ovarian vessels are caught by the bottom of the forceps and not near the points of the bite. The assistant holds this forceps while the broad ligament is cut to its points. The next pair of forceps is applied to the uterine artery and includes all the tissues to the vagina. It can be put on from above down or from below up, and passes between the uterus and the forceps on the ovarian artery. The uterus is cut away. The same proceeding is now adopted on the other side. Gauze is placed between the forceps and the vaginal wall, and between the sets of forceps so as to fill the vagina.

IRRIGATION WITH SALT SOLUTION AND OTHER FLUIDS IN SURGICAL PRACTICE. By HUNTER ROBB, M.D., Cleveland, Ohio. *Amer. Journ. of Obstetrics*.

In selecting a fluid for irrigating the abdominal cavity one looks for one that promises the best possible results with a minimum possible amount of harm. Solutions containing germicidal drugs are open to the objection that they can never be of sufficient strength to destroy the septic material without producing local lesions or even general toxic effects, from the absorption into the system of the chemical irritants which they contain. Experience has shown that the use of solutions of bichloride of mercury or of carbolic acid for irrigation of the peritoneal cavity must now be unhesitatingly condemned, not only on account of the local necrotic effects which are produced, but also because of the more or less grave symptoms of general intoxication which have been time and again observed. Even plain hot water is said with reason to have a definite deleterious effect upon the tissues. It is a fact well known to microscopists that when fresh animal tissues are examined in plain water the cells are found to be seriously altered; and, as has been shown by repeated experiments, the red and white blood corpuscles are injured or completely broken down by its action. In employing irrigation after abdominal operations one aims not only at cleansing the peritoneal cavity, but also at producing such a stimulus that the effects of the shock from a severe and long operation may as far as possible be minimised. In normal salt solution, sterilised, and heated to 110° F., one has an agent which offers these advantages and which thus far has never been shown to have any deleterious influence upon the tissues with which it is brought in contact. To meet the objection raised against irrigation, that it might disperse septic or malignant particles of material among the coils of the intestines, especially in the upper part of the abdominal cavity, it is safer, in every case in which the presence of such infective material is suspected, to first swab out the abdominal cavity with sterilised gauze sponges and afterward employ irrigation.

The author has used salt solution for irrigating the abdominal cavity for the past eight years, and for the past three years he has left in the abdominal cavity from 300 cubic centimetres to several litres of salt solution, at a temperature of 110° F., after every abdominal operation when not employing drainage. From observation of his cases the author is convinced that this procedure undoubtedly diminishes the shock which generally follows a serious abdominal operation, and he also believes that it often diminishes the thirst of which patients so frequently complain after such operations.

J. F. J.



NEW PROCESS FOR ENLARGING THE UTERINE CERVICAL CANAL IN CASES OF STENOSIS. By Dr. GUILLAUME LIVET, Monitor at the Clinique de Gynæcologie und Obstétrique of the Faculty of Medicine of Paris, Officer of Public Instruction. *Polytechnique Médicale* of Feb. 28, 1898.

This new process is applied to the treatment of stenosis of the cervix uteri. The os is first dilated by laminary tents, the patient is then placed in the dorso-sacral position and anæsthetised, and, if necessary, the dilatation is completed by means of Hegar's dilators. The os is brought down to the vulva. The cervical canal is divided by four radial incisions into four pyramidal sections, having their base at the outer surface of the external os, and their summit at the internal os, removing the mucous membrane of the canal between the internal and the external os and some tissue surrounding it, so as to leave a conical cavity, having its base at the external os and its summit at the internal os. In this conical cavity is inserted a drainage tube of the kind of that of Championnière modified, so as to have a wider flange at the external end provided with two holes for ligatures to maintain it in position; the tube is surrounded with iodoform gauze. The hæmostasis is thus perfect without danger of secondary hæmorrhage. The vagina is packed with iodoform gauze, and the dressing is removed on the third day. An injection of corrosive sublimate is given and the iodoform gauze dressing is either replaced or antiseptic injections used, and the vulva covered with absorbent cotton wool.

On the tenth day the drainage tube may be removed, the wound is first cicatrised, the mucous membrane of the cervical canal having been reproduced, but more extensively than before. The cervical canal remains patent without any tendency to contraction.

The author contends that his process gives better results than the method adopted by Pozzi, Bouilly, Makawald, &c., and it no doubt deserves a fair trial.

NEW TECHNIQUE OF DRAINAGE OF THE PERITONEAL CAVITY. By Dr. HENRI DELAGÉNIÈRE. *Polytechnique Médicale*, March 31, 1898.

The conclusions of this communication, made on March 30, 1898, at the Société de Chirurgie, are as follows:—The drainage of the peritoneum, notwithstanding a considerable transformation, which it has undergone since the introduction of tamponnement by Mickulicz, is still defective. The author considers that he has improved on this method by draining the peritoneum on the principle of a spirit lamp by means of *sterilised wicks* contained in sterilisable metallic tubes. He finds, however, that

capillary drainage, as devised by Mickulicz, is preferable in cases where a considerable focus of infection is to be kept isolated from the larger abdominal cavity, but even in those cases there would be an advantage in employing two tubes with sterilised wicks, one to be placed in the wound and the other in a counter opening.

The metallic tubes employed are perforated in their inferior half. The superior orifice intended to rest on the skin is provided with a flange to prevent the apparatus from disappearing into the abdominal cavity. The tube is from 8 to 12 cm. (about 3 to 5 inches) long, its diameter varies from 15 to 20 mm. ( $\frac{3}{8}$  to  $\frac{4}{8}$  of an inch), a wick of absorbent cotton is inserted into it with its extremities spread out at each end of the tube, the one in the abdominal cavity, the other outside over the skin. The wick may be changed in the course of subsequent dressings; it is sometimes difficult to loosen it, but with care this can be done without accident. This method of drainage gives excellent practical results.

P. Z. H.

THE VASCULAR CONNECTIONS OF THE PLACENTAL CIRCULATION OF UNIOVULAR TWINS, THEIR DEVELOPMENT AND RESULTS.  
By FRIEDRICH SCHATZ. *Archiv. f. Gyn.*, Bd. lv., pp. 485-615. Plts. xxii.-xxv.

### III.—*The Acardii and their Kin.*

This paper, a continuation of previous ones in the same archives, aims at tracing the origin of the acardii and, by means of kindred types the macrocardii and microcardii, bringing them into an unbroken and connected series with normal twins. Though the macrocardii and microcardii proper do not so closely resemble the acardii as do their heteromorphous forms and the hemiacardii, they are, as being fundamentally normal in form, more important types and stand nearer the normal twin foetus.

When two embryos develop from a single ovum, at the junction of the two placentæ, branches of villi common to each are found, the vein supplied by one and the artery by the other. A triple circulation is thus formed through which transfusion takes place from the one embryo to the other, *i.e.*, villous transfusion. The vessels proper to the two embryos also anastomose, and should the anastomoses not compensate for the difference in transfusion, that embryo which, in consequence of the unequal lumina of the transfusing vessels is losing blood, becomes anæmic, and the other plethoric and the subject of hypertrophy of the heart—macrocardia.

If the placental anastomosis be wanting, the foetus, deprived

## GENEALOGY OF THE

	WHEN THE	
	C	
One of uniovular twins is or becomes .. ..	Venous anastomosis	
If transfusion to its own from the other placenta is ..	Favoured	Impeded
(a) With little or no ..	Normal	Normal
(b) With moderate ..	Normal	Normal
(c) With great ..	Macrocardius (premature birth)	Normal
Inequality in the reciprocal transfusion in the placenta		
(d) With impeded flow in the vein of the umbilical cord	Microcardius	Microcardius
(e) With impeded flow in the umbilical vein (Heteromorphy).	Heteromorphous Microcardius (Pseudo-hemi-acardius)	Heteromorphous Microcardius (Pseudo-hemi-acardius)
And also great inequality in the reciprocal transfusion in the placenta.		
(f) With primary death of the heart of one embryo (maximum inequality of the reciprocal transfusion)	Normal	Dead
(g) With obliteration of one half of the placenta	Normal	Dead

of its due supply of blood, becomes a microcardius. Acardia may arise from primary death of the heart, or from some impediment in the circulation of the blood from the placenta to the heart of an embryo, the death of the organ being induced by its deprivation of due nourishment.

These considerations have led Schatz to the arrangement of a natural system of the acardii and their kin, which he gives in tabular form above. The details of the extended investigation have been carried out with his well-known thoroughness and are illustrated by excellent drawings.

ACARDII AND THEIR KIN.

PLACENTA HAS					
A No anastomosis		D Both arterial and venous anastomosis		B Arterial anastomosis	
Favoured	Impeded	Favoured	Impeded	Favoured	Impeded
Normal	Normal	Normal	Normal	Normal	Normal
Macrocardius (premature birth or abortion)	Normal	Normal or slight Macrocardius (abortion)	Normal	Macrocardius (abortion)	Normal
Macrocardius (abortion)	Microcardius	Macrocardius (premature or abortion)	Normal birth (abortion)	Macrocardius	Normal (or Hemiacardius, or) dead
Macrocardius, normal, or Microcardius, or dead	Microcardius	Hemiacardius to Holoacardius	Hemiacardius to Holoacardius	Normal (or Hemiacardius or) dead	(Hemiacardius or) dead
Heteromorphous, Macrocardius	Heteromorphous, Microcardius (Pseudo-hemiacardius)	Heteromorphous, Hemiacardius to Holoacardius	Heteromorphous, Hemiacardius to Holoacardius	Heteromorphous, Macrocardius	(Heteromorphous Hemiacardius or) dead
Normal	Dead	Normal	Holoacardius	Normal	Dead
Normal	Dead	Normal	Normal or Hemiacardius to Holoacardius (with slight venous anastomosis)	Normal	Dead

THE BACTERIOLOGY OF THE VAGINA. By KOTTMANN (Bern).  
*Archiv. für Gynäkologie*, Band lv.

The streptococci found on examination of fifty-four cases had a slight virulence which was increased according to the kind of secretion used for inoculation. Döderlein's division of the vaginal secretions into normal and pathological form was not supported by naked eye and microscopical examination; no prognosis as to the course of childbed is to be deduced from this secretion. Pathological bacteria were found more easily and

in larger numbers in the lower part of the vagina than in the upper.

Agnes Bluhm (Berlin) describes a tumour of the inguinal region as a lymphangiectasitic cysto-fibroma of the round ligament.

CONTRIBUTION TO THE ANATOMY AND ETIOLOGY OF TUBAL PREGNANCY FOUNDED ON A SPECIMEN OF TUBAL MOLE. By GOEBEL (Zurich). *Archiv. für Gynakologie*, Band lv.

The author describes a diverticle of the tubal wall which he considers as an auxiliary tube and makes answerable for tubal pregnancy, of which he gives a detailed account of the specimen. He concludes that the tubal syncytium is of maternal origin.

PLACENTAL TUBAL POLYPUS. By L. FRAENKEL. *Archiv. für Gynakologie*, Band lv.

Two cases of placental tubal polypus, which after abortion or rupture, like intrauterine placental polypi (in their residual ovular remains), may cause prolonged hæmorrhage into the peritoneum. The treatment must consist in removal of the tube.

THE DIRECTION OF CILIARY MOVEMENTS IN THE HUMAN UTERUS. By L. MANDL (Wien). *Centralblatt f. Gyn.*, No. 13, 1898.

An unsettled question. According to Wyder the direction of movement is from below upwards; according to Hofmeier from above downwards. In four recent uteri out of eleven, Mandl found the ciliary stream, as in the tubes, directed downwards, thus supporting Hofmeier's view. In the seven others the ciliary filaments were small.

VAGINAL HYSTERECTOMY WITHOUT COMPRESSION FORCEPS OR LIGATURES: HÆMOSTASIS BY MEANS OF THE "ANGIOTRIBE." By TUFFIER. *Soc. de Chirurgie*, May 18, 1898.

The author communicated the results of his new method of vaginal hysterectomy, in which, to control hæmorrhage, he employs an instrument he calls an "angiotribe" instead of compression forceps or ligatures. He has so operated on twenty-three cases, twelve for pelvic suppuration, two for suppurations complicated by hæmatocele, eight for uterine fibromata, and one for cancer of the collum. One patient died from peritoneal septicæmia (autopsy) and one, after several days, from pulmonary congestion, but all the others recovered perfectly.

He proceeds by the ordinary method till the uterus has been

upset, then, instead of using compression forceps and leaving them in position, he squeezes the broad ligaments strongly between the blades of his "angiotribe" and withdraws the instrument. When the uterus has to be removed piecemeal, he uses the ordinary compression forceps in the first place, and removes them one by one when the operation is finished, each time crushing the liberated portion of the broad ligament between the jaws of his angiotribe. It is necessary to close the instrument completely and to keep it in the axis of the vagina while doing so.

One case presented such symptoms of internal hæmorrhage that his assistants at once opened the abdomen, only to be assured of the perfection of his hæmostasis. In another the dressings were so reddened with blood that he removed his vaginal tampons and found the bleeding came, not from the broad ligament, but from the wound in the vagina.

ON SECURING THE BLOOD-VESSELS IN PANHYSTERECTOMY. By VON HERFF. *Centralblt. f. Gynæk.*, No. 18, 1898.

Reviewing the methods for preventing hæmorrhage and the question as to whether better results are attained by securing the vessels separately or in a mass (compression by forceps), v. Herff concludes: "In my opinion we have not so often to decide in our interference whether one should compress by separate ligatures or in a mass, whether one should use silk or catgut—but whether for any particular case the method chosen affords the greatest security attainable, and whether—and this in abdominal operations is by no means least important—this method is as uncomplicated and therefore as little unduly protracted as possible. Each method has its advantages and disadvantages, and a rigid adherence to one or the other merely shows the shortsightedness or want of experience of the operator. 'Every good method in its own place, none should completely exclude the other,' must in this question, as in so many others in medicine, be our accepted motto."

ON THE TREATMENT OF TOTAL PROLAPSE OF THE UTERUS BY TOTAL EXTIRPATION. By O. FUCHS (Breslau). *Monats. f. Geb. u. Gyn.* Band. vii., Heft 5.

This heroic treatment is adapted to the most severe cases of prolapse in the climacteric, and must be quite an exception before the menopause, but in suitable cases has great advantages over the combination of ventrofixation with operations for narrowing the vagina; plastic operations alone, in severe cases affecting women who have to work hard, need not be considered. A relapse occurred in two out of thirteen cases, arising each time

from a newly formed cystocele. It is therefore necessary in the operation to provide for the bladder by a sunken catgut suture. Cohabitation is not interfered with.

PANHYSTERECTOMY FOR CANCER OF THE UTERUS. By THUMIN, Berlin (Landau's Clinic). *Berlin K. Wochenschrift*, No. 18, 1898.

In the past ten years 104 total extirpations of the womb for cancer have been performed in Professor Landau's Clinic, and in nearly all of them compression forceps have been employed to control the bleeding. In all cases the diagnosis was verified by microscopic examination. All patients stated to be cured have been summoned to the clinic and have undergone a searching examination.

*Ages.*—Under 30, 7 cases; under 40, 35 cases; under 50, 38 cases; under 60, 15 cases; over 60, 9 cases. Total 104.

*Results.*—Died after operation, 8 (= 7·6 per cent.). Free from recurrence, 32 (= 30·7 per cent.). Died from recurrence, 1; alive with recurrence, 38; recurrence ascertained, but fate unknown, 7. Died from metastasis, 2; died from unknown causes, 14; lost sight of, 2. Total 104.

*Causes.*—In three fatal cases, no special cause of death was to be found. Ileus killed one patient; she had risen the day after operation, and with the forceps in her vagina walked several times about the ward. A fifth case, complicated by intermittent diabetes, died from diabetic coma. A sixth sank five days post-operation, there was no myocarditis, but she had been much debilitated. A seventh died on the seventh day from general peritonitis due to concealed abortion. An eighth, aged 82, from peritonitis.

*Non-recurrent Cases.*—Recurrence has been lately reported by Bouilly, Thom and others, after four and a half years. A rigid statistical report would, therefore, only embrace those who had lived five years without any recurrence, and the cases operated on in the last five years do not enter into our consideration. Among the other 48, 13 are alive at least five years after operation, = 27·087 per cent.

Fourteen cases of corpus carcinoma are all alive except 4, who died—1 three years post-operation from an intermittent malady; 1 from metastasis and 2 from recurrence within a year post-operation.

Considerations of the 7 cases under 30 does not show that the prognosis as regards recurrence is so bad in young patients as has been asserted—3 are free, of whom 2 may be considered cured, nine and a quarter and six and a half years post-operation. Nor is extreme age a reason against operation; of 10 cases above 60, recurrence was ascertained in 1 case only—1

died from peritonitis post-operation, 1 from a cause unknown, and 1 three years post-operation from an intermittent malady. Other cases are alive and well, nine and a half, seven and five years after operation.

Recurrence is known to have taken place in 46 cases. The average time before recurrence (in 24 cases) was 9·2 months. The average time before death 16·82 months. Recurrence from inoculation is not as frequent as Winter declared. In one case only could the recurrence be attributed to inoculation, nor was this certainly so.

Preparatory operations are condemned, parametritis may occur, and inoculation is then likely; or if interference be delayed the case may become inoperable.

*Complications.*—There were many fixed uteri from chronic pelvi-peritonitis and chronic inflammatory changes in adnexa; in one case a bilateral hydrosalpinx was removed; a plastic operation for a vesico-vaginal fistula was followed by recurrence. There were two utero-vaginal fistulæ; one, in which the operation included an extirpation of left kidney, died from recurrence ten months, the other four months, after interference.

Secondary hæmorrhage occurred in two cases. In the first, now alive and free from recurrence, moderate bleeding on the fifth day, on removing a strip of gauze; this was arrested by a tampon, as was a second attack on the ninth day; a third bleeding on the twelfth day necessitated inspection of the field, and was found to come from the posterior vaginal wall; it was controlled by forceps. In the second case in which ligatures had been used, as it was complicated by descent and prolapse, severe hæmorrhage, eleven days after operation, was controlled by a tampon, and the patient was discharged on the twenty-third day, but died from recurrence twenty-three months post-operation.

J. J. M.

## OBSTETRICAL.

THE CÆSAREAN *versus* FATAL MORTALITY. By EDWARD REYNOLDS, M.D., Boston. *The American Journal of Obstetrics and Diseases of Women and Children*, June, 1898.

The author wishes to advocate in this paper that, since the maternal mortality of the Cæsarean section has now become so low, its performance is justified in all cases in which a mechanical obstacle renders the delivery of an otherwise healthy woman by the usual obstetrical operations more than ordinarily difficult and dangerous. He is strongly in favour of the Cæsarean section, instead of unusually difficult high forceps or version.

As regards the measurements of the pelvis he says, "with a



pelvic measurement of not more than three inches in the conjugate, I believe the Cæsarean section to be the only operation which should be considered in healthy women not exhausted by long labour and at full term." "When a healthy primipara is found to have a conjugate of between three and four inches, the possibility that an indication for the Cæsarean section may arise should always be borne in mind." In multiparæ "when any definite contraction is associated with a history of repeated still-births during previous operative labours, I think that the Cæsarean section should be chosen *ab initio*."

His favourable opinion of the Cæsarean section is derived from experience of 7 performed by himself, of 3 witnessed and advised by himself, and of 12 performed by his professional colleagues and friends. Of these 22 cases all the mothers are alive and 21 of the children. He specially urges the point that the Cæsarean section should be preferred to more than usually difficult high forceps or version, and in healthy women not exhausted by long labour and under the care of experienced men.

Of cases similar to these he finds that 75 have been treated in the last ten years in the Boston Lying-in Hospital by forceps or version, and of these 1 mother died of pneumonia, but there were 23 still-births, a mortality of 30 per cent.

The practical conclusions which he draws then are :—

(1) That in women who are the subjects of visceral disease or other previous ill-health, and in women who are exhausted by long labour, the maternal mortality of the Cæsarean section is too great to allow of its performance in the interests of the child alone.

(2) That in primiparæ with moderate contraction, the decision whether or not the Cæsarean section should be performed as an alternative operation at the beginning of labour, in preference to an attempt at an intrapelvic delivery, is a decision which is intrinsically so difficult that it should be attempted by none but the most experienced obstetricians.

(3) That in most such cases of moderate contraction in primiparæ it is best to wait until the progress of labour teaches us which is to be the safer operation in the given case.

(4) That when any healthy woman has lost one child by a difficult operative labour in the hands of an expert, she should, in the next labour, be prepared for Cæsarean section and delivered by it, unless the course of labour shows that from some changed condition—*e.g.*, a small child or a more favourable position—a forceps' delivery is likely to be easy.

(5) That in the hands of an expert, if the attempted forceps' operation proves to be exceptionally difficult it should be suspended, and if the foetal heart is undisturbed, should be abandoned in favour of Cæsarean section.

(6) With a conjugate under 3½ inches the Cæsarean section under favourable circumstances is the operation of preference.

He recommends to general practitioners that in unfavourable cases the maternal mortality of the section is too high to justify its performance for the sake of the child alone, and that when any practitioner is consulted by a patient in whom a previous labour has resulted in the delivery of a still-born child by high forceps or version performed for simple delay—*i.e.*, in the absence of obstetrical emergencies—the pelvis should be measured and the question of the performance of the Cæsarean section should be settled in advance of labour. Finally, the author concludes that the operation may be performed by any man who has had a fair experience of abdominal surgery.

J. F. J.

A CASE OF EXTRA-UTERINE GESTATION, WITH A STUDY OF THE ORIGIN OF THE SYNCYTIIUM. By H. L. WILLIAMS, M.D., Assistant Pathologist to the Philadelphia Polyclinic Hospital, and by Mr. L. T. SALMON, of the Pennsylvania Medical School.

In this paper is a very interesting review of the literature of the subject, after which is a clear description of the microscopic structures found in a specimen removed from a fatal case of an early ruptured ectopic gestation. The specimen, consisting of the tube and its contents, was preserved, cut into eight pieces, at right angles to the long diameter, and microscopic sections made from every portion of it. The report of these is inserted here in full.

On examining first the small elongated attachment, we find a cross section of the Fallopian tube as it should appear normally at the isthmus. The branching fringes of the mucous membrane project into the lumen of the tube, the ciliated columnar epithelium is preserved, no inflammation is seen, and the tube is absolutely normal in every respect. This point is of special interest in that it shows that the retention of the impregnated ovum in the present case was not due to any obstruction to its free passage into the uterine cavity or to an inflamed condition of the tubal mucosa. Examining now serial sections as they pass from the normal tube to the centre of the mass, the first deviation appears as a fibrinous coagulum of blood in the centre of the lumen; but in this section the mucous lining of the tube is still absolutely normal. As we pass on, the fibrinous coagulum grows larger and larger, dilating the lumen and stretching the tube. The branching fringes become shorter and fewer in number, until they disappear altogether. The epithelium, at first columnar, becomes gradually cuboidal, then a granular layer appears, and finally a fine band, that takes the stain more

intensely than the other tissue, but in which no cellular outlines can be distinguished. No indication of inflammation is present in the tissue below the epithelium, and all the changes present give indication of being the direct result of, and not the cause of, the tubal gestation. The peritoneal covering of the tube is greatly thickened and inflamed, due, no doubt, to the peritonitis before the operation was performed. The tubal wall, at first normal, grows gradually thinner as we reach the centre of the mass, until the muscular bundles finally entirely disappear and the whole wall is transformed into a narrow fibrous band. In the present specimens we are unable to find any trace of decidual cells in the general tubal mucosa. When the chorion villi come in direct contact with the tube wall we do find well-developed masses of decidual cells, which in the uterus would constitute the decidua serotina. But no decidua reflexa, such as is described by Webster as existing in a specimen in the Museum of the Royal College of Surgeons in Edinburgh, can be found in our sections. The preparation made from the quadrant situated on the side opposite the point of tubal attachment shows bands of tubal decidua serotina, in some cases in contact with the ends of fixing villi, in other cases separated from them by a considerable interval—i.e., the decidual cells form the boundary, toward the tubal wall, of the intervillous space. In every case the villi are covered by the syncytial layer, but in no case is the decidua, which forms the boundary on the side of the maternal structure, covered by this thin syncytial band. In one case, where a fixing villus abuts against the decidual tissue, the syncytial and Langhan's cells with which the villus is covered have been absorbed at the surface of contact. The origin of the syncytial layer, which we define as the outer investing membrane of the chorion villi, made up of a homogeneous protoplasm in which are found free nuclei with no individual cell body, is a much disputed point.

The question at issue is as to whether this syncytial membrane is of foetal or maternal origin. When considered as of maternal origin it is supposed to be derived either from the single layer of epithelial cells covering the surface of the endometrium, or from the tubal mucosa, or to be derived from the endothelial lining of the capillaries, which, according to Minot and Hertwig, dilate enormously to fill the intervillous blood spaces. When considered as of foetal origin the syncytium is assumed to be a direct derivation of the foetal ectoderm. From a careful study of the villi in the case at hand, which certainly must be at one of the earliest periods of development obtainable, we are led to draw the following conclusions:—

Firstly, that the syncytial cells are not, as claimed by Ruge, derived from the superficial epithelial cells of the en-

dometrium, as of course they could not be in the present case, since the villi have never been within the cavity of the uterus.

Secondly, that the syncytial cells are not derived from the superficial epithelial cells of the tubal mucosa, since the small villous buds, which cannot possibly have come in contact with the tubal mucosa, show the syncytial layer in greatest perfection. Furthermore, where the fixing villi are in contact with the tubal decidua, not only is there no trace of the epithelium on the surface of the decidual tissue, but also the syncytial layer which covered the end of the villus is absorbed over the area of contact.

Thirdly, it is unreasonable to believe that the syncytial layer is derived from the endothelial coat of the maternal capillaries, because the placenta proper does not form till the third month of pregnancy, and as there is no free blood present about the villi, the placenta cannot yet have been formed and the intervillous space has not yet been occupied by the expanded capillaries; therefore it is impossible that an endothelial covering should have been cast over the villi.

Not coming from the tubal mucosa or the maternal capillaries the syncytial cells must be of foetal origin, probably derived directly from the foetal ectoderm.

A CLINICAL CONTRIBUTION TO TUBAL PREGNANCY. By H. J. BOLDT, M.D., New York. *Amer. Journ. of Obstetrics.*

The author reports here a case of very early rupture of an ectopic gestation, operated upon successfully. Of interest in the report is the note as to complete freedom from pain until the moment of rupture. The author also retracts a statement made by him on a previous occasion that it was impossible to save a patient operated upon in profound collapse or shock; for in this case the patient was suffering from most profound shock, in fact was nearly moribund.

On the question of abdominal *versus* vaginal route in the treatment of tubal pregnancy, he advises the vaginal route only when the tube has not ruptured, or if the patient has had one tube removed at some previous operation. "Vaginal cœliotomy for ruptured tubal gestation is altogether unsatisfactory." Drainage through a vaginal incision is insufficient, and it is not wise to allow large quantities of clotted blood to remain in the abdomen, and it is a very tedious procedure to wash out the abdomen by a tube passed up from the vagina. Not only is this tedious, but it fails to bring away the blood clots.

J. F. J.

**SYMPHYSIOTOMY.** By Prof. ZWEIFEL. *Monatschrift für Geburtshilfe und Gynäkologie.*

This paper, read at the Congress at Moscow, was commented on in the *American Journal of Medical Sciences*, from which the following extract is taken :—

Prof. Zweifel has had at the clinic at Leipzig thirty-one symphysiotomies; all of the mothers recovered without inconvenience or injury; twenty-seven of the children survived and left the hospital in good condition. Referring to cases reported in which patients could not walk without difficulty, he considers this to be due to the excessive stretching of the pelvis and specially to injury of the sacro-iliac joint. He would limit the operation to cases in which the conjugata vera is not less than  $6\frac{7}{10}$  cms., and he believes that the best results are obtained when the limit is placed as high as 8 or  $8\frac{1}{2}$  cms. He believes that no more danger of hæmorrhage exists with symphysiotomy than with Cæsarean section, and he has found it quite sufficient to bring the hips of the patient strongly together, to use a tampon of iodoform or sterile gauze in front and behind the symphysis, and to make counter-pressure by tamponing the vagina. To avoid a laceration, he allows the child, whenever possible, to be expelled by the mother's efforts.

He believes that bad results following this operation are caused chiefly by septic infection, and that such occur because the symphysiotomy wound is improperly handled. He insists upon draining this wound and making pressure upon the tissues about the symphysis with gauze and an abdominal bandage. He prefers the open treatment of the symphysiotomy wound, draining it with gauze for eight or ten days until it is filled with granulations. He sews together the symphysis, using two or three sutures which can be absorbed, and usually adding two sutures which are to remain. His exact method of operating consists first in limiting the operation to those cases in which the fœtus is not only living, but, by reason of its uninjured condition, is likely to survive. The patient's thighs are allowed to hang down, and a transverse incision is made through the skin about a finger's breadth above the symphysis. Superficial vessels are tied. The fasciæ over the symphysis and linea alba are separated from their attachments to the bone, and the tissues are loosened from the lower edge of the subpubic ligament. A silver catheter is then placed in the urethra, the finger of the left hand passed behind the symphysis, pushing aside the bladder, and the joint is opened with a probe-pointed knife from above and forward until all fascia and ligaments are separated. He uses a strong knife whose back is not too thick to go readily between the bones. The hanging posture of the legs

helps to draw asunder the bones when the cut is made. The symphysiotomy wound is packed with sterile gauze, moderate pressure is made upon the iliac bones, and the patient is delivered, if possible, spontaneously. If slight delay occurs, a broad band of flannel or rubber is placed across the pelvis, and the head is made to descend by pressure. He finds oftentimes that bleeding occurs when the head emerges, while not infrequently the head lodges obliquely upon the pelvic floor and must be delivered by forceps. The pubic bones are then brought together by two stitches of catgut and two of non-absorbable material, a catheter is placed in the bladder, and the symphysiotomy wound packed with gauze. The stitches are brought together through the greater part of its extent. The gauze remains eight or ten days, is gradually shortened, and, if silver sutures have been used, they are removed when the granulations approach the surface. An ample antiseptic dressing and occlusion-bandage are kept over the wound.

In three of his cases injury occurred to the urethra or bladder; once by a catheter, once when the urethra was caught between the pubic bones by the removal of the gauze, and once when a pair of tenaculum forceps injured the urethra. In none of these cases was the complication a serious one. Zweifel has found the pelvis appreciably enlarged after symphysiotomy. He believes that such a pelvis will permit spontaneous birth more readily than before symphysiotomy.

**RUPTURE OF THE UTERUS.** By Prof. LUDWIG. *Wiener Klinische Wochenschrift*, 1897.

In this paper nine cases are recorded. With regard to diagnosis, Ludwig insists on the valuelessness of individual symptoms, such as collapse, bleeding, sudden and severe pain, recession of the formerly fixed presenting part, cessation of pains, &c. He has found the best diagnostic signs to be (1) in lateral rupture, the interruption of the natural contour of the uterine quadrant, either a projection or a nodule being formed; (2) abnormal mobility of the uterus; and (3) emphysematous crackling at the seat of rupture. If the head presents and can be pushed back, bimanual examination under deep narcosis should lead to a certain diagnosis. With regard to treatment, delivery may be effected *per vias naturales*, or by laparotomy. The former is indicated when a large part of the child is already fixed in the pelvis, and also when the diagnosis of uterine rupture cannot be made for certain before delivery. In cases in which the child remains in the uterus after the rupture, or has only partially passed into the abdominal cavity, delivery *per vaginam* is only to be preferred when it can be carried out without losing time or increasing or complicating the tear, for

instance, in head presentations and the absence of contraction of the pelvis, also where rupture takes place during an operation. Laparotomy is indicated when the whole child has passed into the abdominal cavity when the passages are not fully dilated, in contracted pelvis, in severe hæmorrhages, and in injuries to the neighbouring organs. In partial passage of the child into the abdomen, or with a living child still in the uterus, Cæsarean section is the correct procedure when natural delivery would take too long, and be fraught with danger to the mother. As regards treatment after delivery, of Ludwig's nine cases, three came into the hospital and were operated on—two by supra-vaginal amputation and one by abdominal hysterectomy; all recovered. The remaining six were treated outside; five were operated on—four by supra-vaginal amputation, one by abdominal hysterectomy, of which one recovered and four died of sepsis. There was no death from hæmorrhage except in the remaining case, which was not subjected to operative interference.

F. F. S.

ON IRREGULARITIES IN CHILDBIRTH CAUSED BY TUMOURS. THREE CASES. By BRUNINGS (Munich). *Monatschrift für Geb. u. Gyn.*, Band. vii., Heft 5.

CASE 1.—A cystic ovarian tumour in the small pelvis formed an absolute impediment to the course of labour. Rapid spontaneous delivery after puncture of the cyst. Five months later the cyst had refilled, but on account of unusually firm adhesions could not be removed by laparotomy. These adhesions were so extensive as to suggest that there might be suppuration of the sac, and this suspicion was confirmed by vaginal incision. Recovery. (2) In this case the tumour was a dermoid cyst, also in the small pelvis; it was punctured, and the woman was delivered by the cranioclast after the forceps had failed. (Fœtal heart sounds inaudible before puncture). Death from sepsis, probably uterine. Section showed that the cyst was bilocular and only one chamber had been emptied. (3) In the third case there was a myoma arising from the posterior wall of the vagina, which was enucleated through the posterior vaginal vault. In the course of this very difficult operation, which lasted two hours, the child died, but was extracted by version, and the operation wound then closed. The woman died in three-quarters of an hour. There had been no secondary hæmorrhage, and her death is to be attributed to extreme fatty degeneration of the heart. The author, discussing these cases, thinks that when labour is impending an immovable ovarian tumour should be punctured, that otherwise vaginal ovariectomy is indicated, but that under some circumstances incision of the sac and stitching its walls to the vagina is to be preferred.

THE CURETTE IN ABORTION. By DÜHRSSSEN. *Berlin Med. Soc.*, May 19, 1898.

Dührssen exhibited a frayed uterus, extirpated by the vagina. It had been curetted by another medical man and afterwards by Dührssen himself, who, not being able to remove all the remains of the placenta, plugged the cavity. After forty-eight hours the finger could be introduced and all remains removed, but in doing this a defect in the uterine wall was discovered. Severe hæmorrhage supervened and induced Dührssen to extirpate the womb by the vagina. Microscopic examination showed that the detritus removed by the curette contained muscular tissue. The attachment of the placenta must have been abnormally firm and the uterus itself abnormally soft. Such conditions, except in another case of Dührssen's and one of Gessner's, have hitherto only been seen after death. The finger is a better instrument than the curette in abortion, for it is impossible to predicate that the conditions may not be as in this case. Extirpation might not be invariably necessary; a firm tampon or perhaps vaporisation might succeed.

THE CURETTE IN THE TREATMENT OF ABORTION. By GESSNER. *Centralblatt f. G.*, No. 12.

Gessner, in a polemical article against Säger's "Austaslung," condemns the curette in abortion. Biermer and Feinberg (*ibid.*, No. 21) say that the finger cannot replace the curette for clearing out the uterus, especially in private and country practice, and hope his views will not be generally adopted. Budin (*O. S. de France*, April, 1897) said in opposition to Schwab, "Properly carried out under chloroform digital curettage leaves nothing in the uterus. It gives us absolute certitude, as it allows us to explore the uterine cavity and know what we are doing."

CONGENITAL LACERATIONS OF THE CERVIX. By KARL HEIL (Darmstadt). *Centralblatt f. G.*, No. 19.

Three cases of nulliparæ, in whom the os externum formed a transverse cleft prolonged at the left extremity by a notch in the cervix. Hitherto lacerations and notches in the mouth of the womb have been received as sure signs of past childbirth. Such congenital notches, developmentally, are due to deficient conjunction of the two crescent-shaped epithelial projections out of which the portio vaginalis is constructed.

J. J. M.



## LIST OF MAGAZINES, &amp;c., RECEIVED.

*(In addition to exchange Journals.)*

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- The Medical and Surgical Review of Reviews. Nathan E. Boyd, M.D. Publishing Office, Connaught Mansions, Victoria Street, S.W.
- Ueber Aus Sackungen Rückwärtsneigungen und Knickungen der Schwangeren Gebärmutter. Prof. Dr. Med. A. Dührssen. Verlag von August Hirschwald, Unter den Linden, 68, Berlin.
- Intravenous Injection of Normal Saline Solution. Horace Tracy Hanks, M.D.Hd. Reprinted from the *American Gynecological and Obstetrical Journal*. H. T. Hanks, 76, Madison Avenue, New York.

# THE BRITISH GYNÆCOLOGICAL JOURNAL.

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VOL. XIV.—NO. 56.

FEBRUARY, 1899.

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dryness especially were of the greatest moment, and ranked before antiseptics. Iodoform, loretin, and boracic acid did

good by securing dryness, rather than as mere germicides. As regards sutures, he thought it well to secure the peritoneum; but it was often a waste of time to suture the fascia and skin separately. He agreed with Mr. Martin that silk was not trustworthy, but might give rise to sinuses and sepsis. In the matter of purgation, he preferred to give an enema forty-eight hours after operation; after this morphia might be administered. But in the main, he had a strong prejudice against morphia and opium, which were especially dangerous in the early days, because they aggravated the tendency, almost universal in women, to constipation, *i.e.*, to paralysis of the muscular coat of the bowel.

Dr. C. H. F. ROUTH agreed with Mr. Martin in his remarks about posture. With regard to the closing of the abdominal wound, he had never in his life heard of suturing in three layers, though he had seen about a thousand cases of abdominal section. He thought that drainage should always be used. He objected to the use of iodoform for the wound, since poisoning might result from it; his plan was to use iodine, and he found it very good; cotton wool should be dipped in the iodine and laid on the wound. Gauze in any form was apt to cause inflammation. At one time morphia was always given; but later it was given up; and now he thought the best results were obtained from trional and paraldehyde, which were sedatives without any injurious effect. He agreed with Mr. Martin's views on the subject of purgatives.

Dr. BANTOCK observed that this paper was on matters of detail on which there would always be room for divergence of opinion. On many points he did not agree with Mr. Martin. For instance, as regards posture, if a patient had a drainage tube, it would be very bad to turn her on her side. Then the dressings, according to Mr. Martin, should be simple: yet he employed iodoform and Gamgee tissue, removing them on the following day. His own plan was to leave dressings on for a week. He agreed with the author that wet dressings were bad. But again,

why did he use iodoform and boric acid in septic cases? Knowsley Thornton used to say that it was no use employing antiseptics when the patient was herself septic. He agreed that silk-worm gut was an ideal material for sutures. Mr. Martin did not like buried sutures, but in some cases they were unavoidable, especially in thin, emaciated women; in a young healthy subject one could use the single layer. Fat patients had a special tendency to breaking open of the wound. As to stitch-abscesses, he believed that the only cause of this complication was tying the stitches too tight. His rule in the matter of drainage was still this: when in doubt, drain. For if unnecessary, it could do no harm: whereas, if not used when it ought to be, the patient's doom was sealed within forty-eight hours. He considered that, in his routine practice of giving morphia, Mr. Martin had taken a retrograde step. If given at all, it should be given by the rectum; but he had seen cases where it had done harm.

Mr. BOWREMAN JESSETT thought they would all agree that no one form of treatment was applicable to all cases. He shared Mr. Martin's views as to posture, but would point out that moving must be carefully done, and not by the patient, but by a skilled nurse; whilst when drainage was employed the patient should be kept on her back. For sutures, he used in his early cases silkworm gut passed through the whole thickness of the parietes, but he had cases of ventral hernia, though this might have been due to the drainage. Still, if all the tissues were included in the sutures, and not skin and peritoneum only, he believed that a single layer might be all right. Unless care were used, there was a danger of drawing up the peritoneum between the muscular layers. For his own part, he now always used the three layers. He had abandoned silk and silk-worm gut for buried sutures, and used catgut, prepared according to the directions of Martin, of Berlin; for the skin he used silk or horsehair. With very fat people he sometimes sewed the peritoneum in one layer and the

fascia and skin in another. Like Dr. Bantock, his rule as to drainage was, when in doubt, drain. The administration of morphia must depend on the patient; in neurotic cases it was often indicated: vomiting rarely occurred when morphia was given. His practice in the matter of purgation was to get the bowels open on the second day.

Dr. PURCELL remarked that the preparation of the patient had a great deal to do with the after-treatment. The opening of the peritoneum was an important point. It was better not to go through the linea alba, but through the rectus muscle. Sponging out of the abdomen should not be done if it could be avoided. If a drain-tube were used, a suture should be put in, and tied when the tube was removed. He generally purged early, by 5 grains of calomel on the second day. He once lost a patient through morphia, and so did not believe in it, though the idiosyncrasy of the patient had to be considered.

Mr. C. RYALL asked Mr. Martin why he waited till the fourth day before purging the patient? He saw no reason why the bowels should not be opened the day after the operation.

Dr. TRAVERS thought the dressing was one of the most important points. He used as a dusting-powder chinosol and boracic acid. Morphia should be given very sparingly, and in very small doses,  $\frac{1}{8}$  grain would almost always relieve pain. As to sutures, he kept silk as far away from the surface as possible; most of the trouble he had seen with the skin had been through silk. He believed much in calomel; the more he used it the better he liked it; he did not give enemata if he could help it.

Dr. HEYWOOD SMITH said that one of the most anxious symptoms after operations was flatulence. The question always arose whether it was the precursor of peritonitis, or whether it was accidental. Some patients needed nourishment very early. He was glad to hear favourable opinions as to the value of calomel in large doses.

The PRESIDENT said that as regards posture and depriva-

tion of fluid he must confess himself to be, according to Mr. Martin, a cruel and harmful surgeon. He believed that anatomically and clinically the dorsal position was for a time indicated, especially in vaginal hysterectomy. For suturing the abdominal wall he always used three layers : silk for the peritoneum, thicker silk for the fascia, and silkworm gut for the skin. He thought Mr. Martin went too far when he said that stitch abscesses should not occur in clean cases ; but at the same time he did not agree with Dr. Bantock that they were due to the sutures being tied too tight. He would say, *when in doubt*, drain ; for he thought that blood should not be left in the abdominal cavity, even clean blood. His general rule was never to give morphia. For purgation he gave Epsom salts, in drachm doses every half-hour or hour till the bowels acted, commencing on the second or third day, and also calomel. He agreed with Dr. Travers that enemata should be avoided. He endorsed Mr. Martin's recommendation that in vaginal hysterectomy iodoform gauze should be carried up, and left till the ninth or tenth day, and that the vaginal sutures should not be cut.

Mr. CHRISTOPHER MARTIN, in reply, contended that in simple cases it did no harm to turn the patient over early ; and even when there was a drainage tube in, he had seen no bad results from it. He did not wish it to be thought that he gave morphia repeatedly, but he always gave a single dose at the close of the operation. He had great faith in calomel for peritonitis, but if there were no symptoms he did not think it was necessary to trouble the patient with purgatives for three or four days. In septic cases iodoform tended to keep the wound sweeter. He did not at all agree with Dr. Bantock that stitch abscesses were due to too tight sutures ; he believed they were always due to germs.

## ON THE COMBINED METHOD IN PELVIC SURGERY.

By E. STANMORE BISHOP, F.R.C.S.Eng.

My object in coming before you to-night is to elicit the views of this Society with reference to the best manner of attacking some of the surgical conditions found in the pelvis.

In order the clearer to define the position, I ask your consideration of four cases picked out of a large number, because they each illustrate certain points to which I shall afterwards refer, and therefore, perhaps, you will permit me to mention them somewhat in detail. I shall, however, be as brief as possible. They are the following :—

The first is Mrs. H. W., aged 28 ; two children, one miscarriage. First labour, history unimportant. When three months pregnant of the second child she was greatly frightened by the shying of a horse. This was followed by hæmorrhage, more or less, up to seven months, when premature labour occurred. From this she apparently recovered. Two years since she had a miscarriage, which was attributed to cycling, and was in bed for one week, during which she is said to have suffered from hepatic congestion, coming on two days after the miscarriage. As soon as she began to get up, hæmorrhage recommenced. Three weeks after she lost very freely, requiring ice bags, &c., and was then in bed for three weeks. Then she went abroad for a month, during which time she had daily recurring pains. For the last twelve months she has had a purulent discharge *per vaginam*, gradually increasing. The periods now come on about every six weeks. About two months ago she had smart hæmorrhage suddenly appearing, and followed by excessive pain down the left side. The hæmorrhage was persistent, though gradually decreasing for a week. The pain has been more acute during the last month, and especially during the last fortnight.

A deeply split cervix, with glandular hypertrophy. In the left fornix, bimanually, a small firm mass could be felt

above the broad ligament, and distinct from the uterus, which was extremely tender. A provisional diagnosis of ectopic pregnancy was made which proved incorrect. The mass when removed and seen microscopically proved to be the ovary in a state of chronic inflammation with cystic development.

The uterus was curetted, and the cervix sutured. The posterior fornix was opened, and the finger introduced. The mass previously detected could be readily felt, but all efforts to draw it down without undue force were unavailing. Sufficient force, however, was used to rupture a cyst on the posterior aspect of the swelling, from which blood escaped.

Abdominal section, mass removed. Omentum was firmly adherent to it, and to the brim of the true pelvis, fixing it completely, and requiring division between ligatures and some little dissection before it could be loosened.

In this case we wished to preserve the uterus, as the patient was a young woman, and it was comparatively healthy. Splitting the uterus, or even its anterior wall, was therefore contra-indicated. Nor would it have been possible, I believe, had this been done, to have separated the mass safely by the original route.

At the same time, before the vaginal opening was made, there seemed to be a reasonable probability of our being able to remove by this route alone.

*Case II.*—Mrs. J. A. C., aged 46, two children, both “fine young men.” No miscarriages. Was quite well up to birth of second child, twenty-one years ago, from which she dates all her present troubles. After the confinement she was two months before she could do much. For seven or eight years she suffered from sacral and hypogastric pain, relieved, but not removed, by a pessary. Two years later this broke, and being in poor circumstances it was not replaced. Then she began to feel something enlarging inside. Fourteen months since she became much worse, and has been more or less confined to bed ever since.



She is a worn, thin woman, with a face showing long-continued pain. The temperature is irregular. Menstruation is profuse and irregular as to time of occurrence ; the amount lost at each period is increasing. The cervix is split, with glandular hypertrophy. The uterus is enlarged, retroflexed, with two small fibroids in the posterior wall. Behind and on either side are medium-sized, firm, elastic, rounded masses.

The operation was commenced *per vaginam*. The bladder separated off with some difficulty. Douglas' pouch could not be found. The anterior wall of the uterus was split for some distance, the peritoneum being opened in front, but it was impossible to draw the uterus downwards, or to dislocate the fundus forwards into the anterior wound. One vessel spouted from the split surface in the median line. This is said not to occur.

Patient placed in the Trendelenburg position, and the abdomen opened. The uterus was found to be embedded in firm adhesions uniting it to omentum and small intestine. Both tubes and ovaries formed large, firmly adherent pus sacs. Douglas' pouch was closed by adhesive peritonitis to a level one inch below the fundus uteri. The whole mass was liberated and removed, a gauze drain left in the vagina, and the abdomen closed.

In this case, the utter rigidity of all the parts rendered futile our attempts to bring down the uterus, without the use of force such as would have torn the surrounding structures.

Both these patients made good recoveries.

*Case III.*—Mrs. C., aged 29, married three years, no children or miscarriages. Six months after marriage had "swelling of the ovary." Fifteen months after marriage contracted scarlet fever. In September, 1896, she was chilled just before a menstrual period. This period appeared, but the menses were scanty and clotted. Diarrhoea set in and pain over the hypogastrium. This pain was very severe and continuous at first ; it is now intermittent, but as severe

as ever when it occurs. The last period was fifteen months ago, has seen nothing since. Has lost flesh during the last twelve months. For the last nine months has had night sweats. Has been bedridden for ten months. Is greatly emaciated. Abdomen retracted, iliac bones prominent, legs and arms mere skin and bone. Bones of skull showing. Eyes bright and prominent. Left leg œdematous, cannot be extended. Right unaffected.

Uterus fixed, with firm elastic masses on either side. Liver dulness increased. No enlargement of spleen.

Operation commenced *per vaginam*. Vagina very narrow. Bladder dissected off. Posterior fornix opened. Incision opened into purulent cavity containing about two ounces of foul-smelling pus, which was sponged out. Uterus split completely, but it was impossible to draw either side down.

Patient in Trendelenburg position. Abdomen opened. A loop of small intestine was found adherent to bladder and left iliac fossa, shutting in uterus and tubes. The adhesions were divided by the scissors, leaving a longitudinal raw surface on the gut. When this was clear, the divided uterus could be seen and drawn upwards a little, but not much, owing to its still firm fixation. Enough, however, could be gained to permit of enucleation of a large pus sac on the left side. After this and the left uterine half had been removed, it became possible to enucleate the right tube and uterine segment. When this was done and the pelvis apparently clear, attention was directed to a mass on the right side, lying upon the psoas muscle, internal to the cæcum, and surrounded by very firm adhesions. Shelled out of these, it proved to be the right ovary, converted into a caseous abscess with very thick and resistant walls. The pelvis was dried, and drained by gauze drawn through into the vagina. The abdomen was closed. The patient died the next day.

In this case, the small intestine was most firmly adherent to the pelvis, to the bladder, and to the adhesions covering

the uterus. Had it been possible to drag the uterus downward, the bowel must have followed it, and, held as it was by counter-adhesions, it must have torn had force been recklessly applied.

If all the structures adherent to the uterus had been removed *per vaginam*, the right ovary would still have been left, as it appeared to have somehow severed its connection with the tube, and contracted fresh and very dense ones with the iliac fossa. It could not be felt from the vagina, even when the pelvis was cleared, and must therefore have been left behind.

*Case IV.*—Mrs. L. R., aged 39, married fifteen years. Several miscarriages. No full-time pregnancies. First miscarriage at eight months, following a fall fourteen years ago. Has had excessive menstruation ever since. Since this she has had several miscarriages, at first going about three months—gradually shorter and shorter periods down to six weeks. About five years ago she went five months, the resulting miscarriage was very severe, and was followed by violent expulsive pains every ten minutes at first, gradually decreasing to four times a day. She continued to lose a great deal at each period for two years. Three years ago she was extremely ill, and consulted two London medical men, by whom she was treated from time to time by applications to the endometrium and by ergot. She improved for about two months, but has since steadily retrograded. Out of the last twelve months she has passed ten in bed. Her periods come on every fortnight, last about ten days, and she uses about nineteen napkins, made of bath towels.

Abdomen is enlarged in hypogastric region to level of umbilicus. Mass is central, symmetrical, shape of enlarged uterus. Firm generally, with patches which give a more fluctuant sensation. Sound passes five inches, backwards and to the right. Is evidently in a narrow passage, with firm walls. The main mass appears to lie in front and to the left. Canal appears smooth. On the right side there is

a tender, elastic mass. She says it feels like a "swollen face" on that side.

There is no urinary frequency, but persistent constipation requiring medicine or enemata.

September 21, 1898.—Operation begun *per vaginam*. Vaginal insertion divided. Bladder separated for some distance. Douglas' pouch opened. Uterine arteries secured.

Patient placed in Trendelenburg position. Abdomen opened. Uterus presented at once. On left side, no adhesions. On right side, omentum firmly adherent to right ovary. As left ovary was only slightly enlarged it was left, this and the left tube, also normal, being tied off from the uterus. On the right side, the tube and ovary, the latter much enlarged, were blended together, a hydrosalpinx being formed. These were removed with the uterus. The operation from above was readily and easily performed, as most of the work had been done from below. It was almost bloodless, since the uterine arteries were already secured, one branch on the right side only spouting. When the mass was lifted out, and all vessels carefully secured, the pelvis was dried, gauze drawn through into the vagina, and the peritoneal flaps united over it by a continuous silk suture, which turned all raw surfaces into the vagina. The abdomen was then closed by triple suture and sealed by celloidin. Recovery was rapid and uneventful.

In this case, the tumour was much too large to remove by the vagina, short of morcellation. It was therefore intended that it should be removed by abdominal section, but the earlier steps were done *per vaginam* for the reasons to be adduced.

Now in dealing with such cases, and others of a more or less similar character, I presume one may safely say that the method in vogue in England, at least until the last year or two, was that of abdominal cœliotomy. It had many and great advantages. When the abdominal cavity was open, all complications, such as adhesions to intestine and

other organs, could be easily appreciated and dealt with. The opening could be enlarged if necessary to any extent, so that there was no cramping of the operator's hand. Both eye and hand could be utilised. It is true that in many cases the fingers alone were sufficient, the main portion of the work, or the whole of it, being done without the need of actual inspection, but there was always the security ensured by the knowledge that if at any moment the aid of sight was necessary, it was easily available, and not only so, but small electric lamps could be introduced, or their light reflected upon any point of obscurity. As compared with an entry *per vaginam*, it was like looking into and working through the wider end of a funnel, instead of through the narrow spout. Large masses, moreover, could be taken away without bruising of the parts which had to remain.

On the other hand, it had certain very obvious disadvantages. In the earlier operations, when the patient was in the dorsal position, the small intestine was for ever escaping through the wound, if it were any size, and had as constantly to be replaced or covered by warm compresses, which must be constantly changed. The omentum also wrapped itself round the operator's fingers and impeded his progress. Thanks to the Trendelenburg position, these troubles are things of the past. Then there was the risk of subsequent hernia, still, to some operators, apparently a very real danger. I believe that this depended upon the old and faulty approximation of the various layers of the abdominal wall resulting from the method of through and through suturing. Now that we know that yielding of the abdominal wall months after the operation is due to the non-accurate approximation and fixation of the rectus fascia, this sequel has been practically eliminated. At least, that is my experience. Drainage also was a great cause of this, and for the same reason. Now, I suppose supra-pubic drainage by glass tubes or by Mickulicz's method is equally relegated to the limbo of forgotten

methods. Clark's paper in the *American Journal of Obstetrics*, in 1897, describing the results of observations in the Johns Hopkins University, showed clearly the inherent faults and dangers of that practice; and far better results have been obtained since the teaching therein contained has been appreciated, and the inevitable alterations in the technique have been carried out. Thus in Staveley's *résumé* of 563 cases untoward results followed in 20 per cent. of undrained, but in 54 per cent. of drained cases, suppuration of the abdominal wall in 14 per cent. of undrained, but in 24 per cent. of drained, deaths in 6 per cent. of undrained, but in 13 per cent. of drained cases.

But in spite of this, there remain still two points upon which stress has been laid—the resultant scar and the increased shock to the patient.

The scar is, I think, unimportant. If the old method of suturing were in vogue, there might be something in it. When the deeper musculo-fibrous union gave way, the receding transversales and obliqui naturally pulled upon the skin union, and the result was a broad and unsightly scar. Moreover, the large sutures then in fashion, which gripped a large area around the line of incision, cut their way against the tissues in the line of tension, and surrounded the vertical by several more or less marked transverse scars, and the result was not sightly. Nowadays, the rectus fascia being strongly and soundly united by buried sutures, the skin merely needs a number of fine sutures which do not pass more than a centimètre, and usually much less, beyond the divided edge, and when all are firmly sealed by celloidin, the resulting scar is merely a white line, which, in a year's time, is hardly to be seen.

There remains the shock. Everyone will, I believe, admit that in the older operations much of the shock then observed was due to the manipulation, exposure, and cooling of the small intestine, then inevitable; and that, as

Tait demonstrated, the smaller the opening, and consequently, the less fear of this occurrence, the less was the shock. The Trendelenburg position has enabled us to eliminate this to a great extent, and to make our openings larger, when required, without unnecessary exposure of the dangerous gut. Still, I believe it will be admitted that the shock is greater in ventral than in vaginal coeliotomy, *and is proportioned to the length of time that the abdomen remains open.* But I think it must also be admitted that a certain amount of shock accompanies all operations, and that this is dependent upon the length of time occupied in their performance, so that the aim of all abdominal surgeons is to shorten as much as possible the entire duration of the operation, and *especially that part of it during which the abdominal cavity is open.* This, *bien entendu*, so far as is compatible with thorough and perfect work.

The development of the vaginal operation seemed at first sight to supply just what was required. I quote from Landau's "Vaginal Radical Operation" translated by Giles and Eastman. By the opening of Douglas' pouch, or of the anterior fornix, the diseased tube or ovary could be reached, enucleated, brought down into the vagina and removed or otherwise treated. Whilst this was done the protective adhesions above, which were only so much obstruction in the abdominal operation, acted now as so many safeguards against general peritonitis or the injury of intestine. In cases not quite so simple, after entry into the peritoneal cavity, incision or aspiration of the swelling ensured its collapse, its contents finding ready exit through the vaginal incision, and the collapsed organs could then be more easily removed. In still more difficult cases, where parts were more rigidly fixed, and especially when the uterus was diseased, or there was no special reason for its retention, and sufficient room could not otherwise be obtained, the uterus might be split anteriorly, and so the tension relaxed. After this incision had served its purpose, the

uterus might even be again united. Further still, the uterus might be completely divided in the mesial line, and each half with its attached appendage brought down separately into the vagina, and there dealt with. Adherent intestine, it was said, would follow the parts so brought down, and might be separated in full sight. In the worst case, morcellation of the uterus and surrounding tissues could still be resorted to, and the whole diseased area thus removed.

So that it seemed as though no cases could possibly be beyond the control of a skilful operator attacking them *per vaginam*. The operation would be shorter, the risks much decreased, the shock markedly diminished, the scar no longer visible, hernia no longer possible, and the final results almost perfect ; and such, indeed, is fully claimed by some of the supporters of this method.

Incidentally, however, it may be pointed out that two of these statements are at least inconsistent with one another. Hernia, it is said, does not follow, *because* the length of the mesentery forbids it. In that case, how can we expect to draw down the adherent intestine sufficiently to be able safely to deal with it ? In point of fact, both statements must be taken with considerable reservation. In such cases the thickening produced by inflammation renders all the tissues more rigid and less extensible, and very often it is absolutely impossible to deal with intestinal adhesions by this route without producing so much tension as to greatly damage the gut, whilst cases are on record in which the vaginal scar has yielded, and permitted the descent of intestine low enough in the vagina to be a source of great inconvenience. Theodor Landau himself, at the Edinburgh meetings, mentioned two cases of vaginal hernia. (*British Medical Journal*, August 20, 1898, p. 466.)

But apart from this there are two main difficulties in the way of our acceptance of this, the vaginal route, as sufficient for and suitable to all cases.

If a collection of pus, either tubal or ovarian, has set



up so much adhesive peritonitis around it as to glue its containing wall firmly to Douglas' pouch, so that the wall of the abscess and the wall of the vagina form one, an incision will cause the pus simply to flow into the vagina, which being covered by mucous membrane, will not be acted upon by it, and there is practically no fear of the absorption of septic material. But when the pus-containing organ is at some distance from the pelvic floor, held up by anterior and superior adhesions, there will be found an area of as yet unaltered peritoneum between it and the vagina, lining the sacral concavity, and continuous with that of the general abdominal cavity. In such a case if the swelling were incised with a view to its collapse, or if, during the manipulations designed for its enucleation, the sac should give way, pus, the virulence of which is an unknown quantity, must pass over this area. Is this safe? Can we rely upon the rapidity of its evacuation, and our own efforts at cleansing to render such passage innocuous? It must not be forgotten that if after such collapse any attempt at enucleation is made, the parts will be more or less bruised, and so lowered in vitality and power of resistance. Moreover, raw surfaces will be left, which will be more or less contaminated, since the enucleating hand must pass through the track over which pus has escaped, and, in spite of all care, may carry up with it bacteria which have not been absolutely cleared away.

Richelot and Le Dentu, in a discussion of the Société de Chirurgie, in June last, emphasise this danger, and the latter also points to the risk of opening during the manœuvres, even in the cases previously referred to, when the sac wall is one with the vaginal, the protective upper wall, which separates us from the peritoneal cavity. Two or three of his cases died from this cause. Especially, of course, is this dangerous in acute cases.

That is one difficulty. The second is this. I quote Landau, who may fairly, I think, be taken as a representative of the advocates of the vaginal route. He says :

"Occasionally by the purely vaginal method only a partial extirpation of the diseased tissues can be accomplished, as, for instance, when the adhesions lie more to the sides, when the inflammatory products are high up and posterior, or retro-peritoneal, and behind the sigmoid flexure, or finally, when they are situated up against the anterior abdominal wall." So that it is evident that all cases even of pyosalpinx are not amenable to the vaginal operation. When we consider cases of fibroid, dermoid cysts, ectopic pregnancies, and the various other conditions which require pelvic surgery, it becomes still more evident that the vaginal route alone is not sufficient.

Other minor objections to this route may be mentioned. Some of these may be due to unskilful surgery, and may be avoided, perhaps, by more careful work, but three cases of intestino-vaginal fistula are reported by Schiller, of Berlin, of which one healed spontaneously, whilst two died with the fistula still unhealed.<sup>1</sup> Ligation or compression of ureters has, of course, occurred in both vaginal and abdominal operations, but the danger is, I believe, greater by the vaginal route.

Zweifel also draws attention to the "so-called 'unavoidable' extirpations of the womb," which are caused by the technical difficulties of the vaginal method, and which he thinks should not occur.

If we compare the two methods, the relative advantages may be summed up in very few words. In vaginal operations you have the least shock and loss of blood. In abdominal operations you have the least difficulty and the most security.

Of course this is not true in all cases. There are cases which naturally suggest the purely vaginal route as the

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<sup>1</sup> Monod had two cases of stercoral fistula in ten cases of one-sided pyosalpinx, and one case of persistent purulent sinus. Out of four cases of bilateral salpingitis, two died. Ricard reported a case in which, some days after operation, a recto-vaginal fistula followed, and the patient died.

best for them. Carcinoma of the cervix, carcinoma of the fundus, small, easily movable tumours of the adnexa, &c., cases of perisalpingitis or of abscess of the adnexa which project towards, and the walls of which have become one with, the vagina. There are others which as naturally point to the abdominal operation as indispensable—adherent multilocular ovarian cysts, most dermoids, ruptured ectopic pregnancies, &c.; but it is the intermediate class, of which double pyosalpinx with a necessarily useless uterus or fibroid uteri may be taken as types, where hesitation is likely to occur, and in which a combination of both is undoubtedly useful, and will, I submit, conduce most completely to the patient's recovery.

By commencing from the vagina, a great deal may be done before ever the peritoneal cavity is opened; the bladder may be separated off, the ureters placed out of danger, the vaginal attachments divided, the uterine arteries secured, and so the actual time during which work is done with the peritoneum exposed, the time during which the greatest shock is produced, very greatly shortened. Unfortunately it is not always clear before the operation is begun whether it will be possible or not to finish by this route, and no definite conclusions have been formulated as to the point at which further vaginal work becomes mere waste of time, and the *venue* of attack should be shifted to the abdominal side.

The advocates of the vaginal route would seem to consider it a point of honour to succeed by it alone. Speaking of one of the cases detailed above, in which the route was changed, to a well-known Northern operator, I was met by a shake of the head and the remark: "I think you ought to have brought those appendages down. I have never yet failed to do so." While an enthusiastic admirer of his added: "Ah! Blank, I should like to see the appendages that would not come, if you were determined to have them." Of course, that is one way of looking at it, and, no doubt, by sheer force, the difficulty might

in most cases be overcome. The question is, how far we are justified in using brute force in such cases.

For the purposes of discussion, I submit that a very definite point be taken, and to make this clearer, I will mention the steps of the vaginal operation in order.

The patient is in the lithotomy position ; the cervix exposed by retractors.

Douglas' pouch is opened, the fingers introduced, and enucleation attempted. It is impossible.

The bladder is separated off ; the finger is introduced *viâ* the anterior fornix ; no success.

The uterine arteries are tied on both sides, and the cervix loosened. The uterus still refuses to descend.

The uterus is split anteriorly. Some of the tension being thus reduced, another attempt is made without result.

The uterus is split completely ; but the parts are so rigid that the halves cannot be brought down, nor can we produce any noticeable effect upon the appendages.

The uterus, appendages, and any diseased parts we can reach are cut away bit by bit, clamping and cutting until we have cleared out all we can. Vessels are clamped or tied as we go on, and the resulting cavity is packed with gauze.

Now, up to the stage of division of the uterus, every step is of use to us in both operations. No time is being wasted, and although the peritoneum is opened from below, still this is no more than would occur in any vaginal extirpation, and therefore we need anticipate no additional shock from this. The tying of the uterine arteries, the separation of bladder and ureters, and the loosening of the cervix, will greatly facilitate the subsequent abdominal operation, whilst the first of these measures will render it almost bloodless.

The splitting of the uterus, if there seems a reasonable prospect of success, does not cause great delay, but is of no assistance in the abdominal work.

But one cannot say even as much as this for the final step, which has been called morcellation. It is a pity that

the same term is already in use for a radically different operation, different in aim, different in performance; absolutely and diametrically opposite in result. Submucous single fibroids, which, when removed, leave the uterus almost in *statu quo antea*, have been removed piece by piece through the dilated os, after division of the inner wall of their capsule, and this operation has hitherto been known as that of morcellement. The name should, I submit, be restricted to this well understood and reasonable manœuvre, and some other term should be selected for what is indeed but a mere blind dragging out and removal of anything that will come—a proceeding which in nine cases out of ten is not complete after all. Landau himself says, after such an operation, "There may be considerable parenchymatous hæmorrhage from the shreds of adhesions and remnants of pyogenic membrane," and when discussing after-treatment, he says, "When the operation has been necessarily incomplete, that is, where portions of pyosalpinx or pelvic abscesses had to be left behind, the discharge of necrotic and decomposing tissue will of course continue until these secreting fistulæ and surfaces have become obliterated, a process which may take several months." It is well to remember that just such cases are certain to have been brought to the lowest possible ebb by the hectic febrile state in which they have been living for some months previously. Such a "convalescence" is more than likely to exhaust what little remaining strength they possess, and the patient will have come alive off the table, it is true, only to sink beneath the exhausting drain of persistent suppuration.

We must, I conceive, aim at a *complete* removal in the shortest possible time, and therefore we pursue the vaginal route up to the point of uterine division. When this has been done, anything further is inimical to our patient's interests. She is therefore at once turned into the Trendelenburg position, and all further surgical work is done from above, with all the advantages of light and free space in which to work. When the whole has been removed, a

gauze drain is drawn through into the vagina, the pelvic peritoneum is united over it by a continuous silk or catgut suture. The abdominal cavity is cleared of clot, mopped dry, the abdominal opening secured by the triple suture, and the wound sealed by celloidin. All raw surfaces are thus placed outside the peritoneal cavity, and in contact with absorbent gauze. The advantages of this are obvious.

Of course there are cases in which all that can be done at the moment is to secure free exit for pus, the operation for removal of the sacs being necessarily postponed, but these are mere incisions of an abscess and do not come under consideration here until the secondary operation has to be discussed.

By such a combination of the vaginal and abdominal route, I submit, the best interests of the patient are served, and the most satisfactory and permanent results are to be obtained.

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The discussion on the paper was adjourned till the December meeting.

**THE BRITISH GYNÆCOLOGICAL SOCIETY.****THURSDAY, DECEMBER 8, 1898.****DR. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.****PRESENT : 33 Fellows and Visitors.****The following gentlemen were proposed for election :—****J. F. Barrett ; A. W. H. Edgelow ; J. S. McArdle, F.R.C.S.I.****Mr. W. Burslem Rotheroe was elected a Fellow of the Society.****SPECIMENS.****CASE OF MYOMA-UTERI, WITH DISTENDED TUBE, CYSTIC OVARY, AND BROAD LIGAMENT CYST—ABDOMINAL HYSTERECTOMY — RECOVERY. Under the care of CHARLES RYALL, F.R.C.S., Surgeon to the Cancer Hospital ; Surgeon to Out-patients, London Lock Hospital.****H. W., aged 36, married, admitted into hospital, August 24.**

*History of Present Illness.*—Catamenia regular up to fourteen years ago, when there was a sudden loss, apart from the period, since when she has never felt well. Five years ago there was a second sudden and severe loss, lasting seven weeks, during which time many clots were passed, and this was followed by anæmia and emaciation. Three months ago there was a third loss, lasting three weeks. The menstrual flow now lasts twelve days, accompanied by great pain, but there is no loss between the periods. Always suffers from aching and dragging pain in left iliac region. These symptoms have become much worse of late years.

*Past History.*—Healthy up to beginning of present trouble, fourteen years ago. Married at 17. Husband alive. No children.

Catamenia began at 13, regular. Twenty-eight days' interval, the period now lasts twelve days.

*Present Condition.*—An irregular swelling in the hypogastrium, and extending into left iliac region, and reaching three-quarters of the distance to the umbilicus. Dull on percussion. Bimanually it is found connected with uterus, and a large mass can be felt in the posterior fornix. There is also a hard nodule the size of a walnut in the left fornix and pushing the cervix to the right. Very little mobility.

*Operation, August 16, 1898.*—Median cœliotomy performed. Omentum found adherent to anterior surface of uterus, and to the right Fallopian tube and ovary. Coils of small intestine and the sigmoid loop were adherent to the posterior surface of the uterus. The right ovary was cystic, the right Fallopian tube was distended. A cyst the size of a tangerine orange was present between the folds of the right broad ligament. Occupying the left uterine wall was a fibro-myoma the size of a small walnut, and adherent to the posterior uterine wall, and firmly fixed and adherent in Douglas' pouch, was a pedunculated fibro-myoma the size of a foetal head. After freeing the adhesions, it was found impossible to liberate and pull out of the pelvis this large fibroid without first freeing the uterus, which was also firmly fixed. Hysterectomy by Howard Kelly's method was therefore carried out, the right ovary and tube being removed, the broad ligament cyst dissected out, a peritoneal flap was dissected off the anterior surface of the uterus; the right uterine vessels were secured, the uterus cut across at the level of the os internum, and the left uterine vessels secured; and last of all, the upper part of the left broad ligament, leaving the left ovary behind. It was then found possible to free and remove the fibro-myoma fixed in Douglas' pouch. The raw surfaces of the uterine stump



were brought together, the peritoneum sewn over it, thus completing the pelvic floor. The abdominal incision was then closed in three layers, and the operation completed.

The patient made an uninterrupted recovery.

The interesting points in the case were the presence of a broad ligament cyst and dilated tube, which complicated the operation, and also the impossibility of liberating the pedunculated tumour lying in Douglas's pouch without first performing hysterectomy.

#### CASE OF DILATED FALLOPIAN TUBE—OPERATION— RECOVERY.

S. B., aged 48, married. Admitted into hospital August 31.

*History of Present Illness.*—Noticed a swelling in the lower right part of the abdomen six months ago, and ascribed its appearance to a fall. It has gradually become larger. There is continual pain in the left iliac region, and shooting down the left leg, with frequent attacks of pain of a severe nature. Micturition is frequent. No constipation. Much leucorrhœa. No hæmorrhage.

*Past History.*—Married sixteen years. No children. No miscarriages. Catamenia began at 14. Always irregular and scanty.

*Present Condition.*—A smooth round regular tumour the size of a cricket ball, tender on pressure and dull on percussion. Extremely mobile, and could be moved from one side of the abdomen to the other.

Bimanually the uterus appeared normal, and the tumour was found to be distinct from it.

*Operation, September 16.*—Median cœliotomy performed. Left Fallopian tube found distended, and bound by extensive adhesions to the sigmoid, small intestines and omentum, and the left ovary was spread out and firmly fixed to the swelling. The left tube and ovary were removed after separating the adhesions. The abdomen was closed, and the patient made an uninterrupted recovery.

The point of interest was the extreme mobility of the swelling, notwithstanding the extensive adhesions.

The contents of the tube consisted of a clear, greenish yellow fluid containing much cholesterin.

The PRESIDENT, commenting on Mr. Ryall's first case, said that he had operated recently on a somewhat similar case. The myoma extended into the broad ligament on the right side, making the operation a difficult one. After removing the uterus and tumour the peritoneum was stitched across in the usual way. The patient made a good recovery, and the temperature did not rise above 99°. But one evening the nurse told him that a mass had been passed by the vagina; and he found that all the solid part of the cervix had come away through the os uteri, and the line of sutures could be seen along the top of it, and yet vaginal examination showed nothing to even indicate that any operation had been performed, and the patient was now quite well.

CASE OF FIBROID TUMOUR COMPLICATED WITH PYO-SALPINX REMOVED BY SUB-PERITONEAL HYSTERECTOMY. Under the care of Dr. J. MACPHERSON LAWRIE.

Mrs. S., aged 40, consulted me on October 21, on account of excessive abdominal pain, which incapacitated her from her duties, and a swelling occupying the right side of the abdomen. On examination, the swelling was accounted for by a fibroid tumour of the uterus, and as her sufferings were great, an operation for its removal was advised. This took place on November 6. The tumour was exposed by a long incision, and found to be complicated with a pyo-salpinx on the right side. Both appendages were diseased, with numerous adhesions, and completely matted to the surrounding parts. The tumour itself was firmly adherent to the great omentum, as well as to the bowel and appendix, and considerable trouble was experienced in the process of separation. The broad ligaments were then

divided externally to the ovaries and tubes, and the uterine arteries secured. The cervix was divided by a wedge-shaped incision, and brought together with catgut. The peritoneal flaps were laced across the pelvis and over the stump. After careful sponging, the abdomen was closed without flushing or drainage.

Patient made a good recovery.

**CASE OF FIBROID UTERUS UNDERGOING MALIGNANT DEGENERATION REMOVED BY VAGINAL HYSTERECTOMY.**

Mrs. F., aged 29, consulted me on September 9, 1898, on account of severe continual uterine hæmorrhage and leucorrhœa for two years, accompanied by violent pain. On examination the uterus was found much enlarged, and a polypus about as large as an orange presented at the os.

On September 25 the uterus was dilated and the polypus removed. This gave room for a more complete investigation, and disclosed the presence of another swelling occupying the fundus and bulging into the uterine cavity. The capsule was freely divided and a soft tumour shelled out. This was sent to the Clinical Research Association for examination, who reported that it consisted of malignant tissue.

The uterus was accordingly removed on November 13 by vaginal hysterectomy, the ovaries and tubes being taken away at the same time. The patient made an excellent recovery from both operations, and is now in good health.

**SPECIMENS ILLUSTRATIVE OF VAGINAL SURGERY.** By JOHN W. TAYLOR, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women, Birmingham.

**(1) SMALL SESSILE MYOMA OF FUNDUS REMOVED BY ANTERIOR COLPOTOMY AND HYSTEROTOMY.**

The patient was a married, nulliparous woman, aged 38, who had suffered from menorrhagia, and who possessed a tumour of the fundus uteri, which appeared to be an interstitial myoma.

As this could not be sufficiently explored by dilatation, the anterior vaginal fornix was opened, the bladder separated from the uterus and the anterior uterine wall divided in the middle line as far as the peritoneal reflexion. The two sides of the incision were then held apart and the uterine cavity plainly seen.

The little tumour was found to be submucous, and was easily removed.

The incision in the uterus was closed with a continuous catgut suture, and the vaginal incision with fine silk. The patient made a good recovery.

(2) RIGHT OVARIAN CYST REMOVED BY POSTERIOR  
VAGINAL CÆLIOTOMY.

The patient was a married woman, aged 27, who had one child, three years old. On bimanual examination there was evidence of a cystic tumour behind and to the right of the uterus. Both tumour and uterus appeared to be freely movable. The posterior vaginal fornix was opened by a free incision, and the cyst explored by sight as well as by touch, the anterior blade of a Simon's speculum being used for illumination, as in anterior vaginal cœliotomy. The cyst was tapped, a pint of whitish fluid being removed, the ovary brought down into the vagina, ligatured and removed.

(3) RIGHT TUBO-OVARIAN CYST REMOVED BY POSTERIOR  
VAGINAL CÆLIOTOMY.

This case was in nearly all respects very similar to the one previously reported, but the cyst after tapping and removal was found to be a tubo-ovarian one. The patient was a young married woman, aged 26, and had never been pregnant.

(4) TUBAL MOLE WITH RIGHT TUBE AND OVARY, REMOVED  
BY POSTERIOR VAGINAL CÆLIOTOMY.

The patient was a married woman, aged 38, who had nine children, the youngest of whom was four years old.

She menstruated regularly until five weeks ago. Then she had hæmorrhage for two weeks. This was followed by acute abdominal pain, which came on suddenly, and has continued, with some intermissions, ever since. For two weeks there was no loss, and now, for a week, she has again had hæmorrhage.

On examination an elastic tumour was found nearly filling the pouch of Douglas and pushing the uterus forwards against the pubes.

Operation was done on November 15. A free incision was made through the posterior vaginal fornix into the pouch of Douglas, liberating a considerable quantity of soft blood-clot.

The pelvis was then thoroughly explored, and a large mole of pregnancy found resting within a widely ruptured tube as in a cup. This was detached and removed. The ruptured (right) tube and corresponding ovary were then drawn down into the vagina, ligatured and removed. The pelvis was thoroughly washed out with a warm vaginal douche until all blood and blood-clot had been completely cleared away, and the wound was dressed with an abdomino-vaginal tampon of iodoform gauze.

Mr. TAYLOR remarked that in several other cases of vaginal operation for tubal pregnancy he had been content to carefully remove the pregnancy without disturbing the tube, trusting only to this and to gauze pressure for the arrest of bleeding. In two of those cases he had met with troublesome, but not dangerous, hæmorrhage, and when it was easy to remove the affected tube he considered it the wiser and better practice.

All of these patients made very easy and uneventful recoveries. There was little or no sign of any peritoneal irritation, and each left the hospital at the end of a fortnight without, of course, any abdominal wound or belt, contrasting very favourably in these respects with similar cases which had been operated on by abdominal section.

In all cases of vaginal cœliotomy, Mr. Taylor insisted

on thorough disinfection of the vagina before the operation was begun. In his own practice as soon as the patient was anæsthetised—but not before—the vulva and pubes were shaved, and buttocks, vulva, and vagina were deliberately cleaned, first by lysol (2 per cent.), secondly by methylated spirit, and thirdly, by a sublimate solution (1 in 1,000).

Dr. TRAVERS wished to ask Mr. Taylor about his first specimen. Was it necessary in the case of a polypus or a small fibroid to divide the uterus up to the fundus? In olden days such tumours were enucleated after dilatation of the cervix. He thought that in their anxiety to do the best they were sometimes apt to do more than was necessary.

Mr. TAYLOR replied that the nature of the tumour could only be ascertained in his case after the adoption of the procedure he had described.

**CASE OF REMOVAL OF THE UTERUS BY VAGINAL HYSTERECTOMY.** Under the care of F. A. PURCELL, M.D., M.Ch., Surgeon to the Cancer Hospital.

The specimen of a uterus (shown at the last meeting of the British Gynæcological Society) was one of malignant disease of the cervix and a distended body, much contracted from the spirit solution in which it had been preserved. When fresh, the body was the size of two fists placed together, and contained a full half pint of pus. The case was that of—

Sarah K., aged 59, married, eleven children, no miscarriages, very stout, healthy aspect, was sent to the Cancer Hospital by Dr. Charlesworth, of Wandsworth, and admitted September 23, 1898. About fourteen months back she began to have slight bleeding, later this discharge became offensive, pain supervened the last few months, and she stated that she had wasted.

On examination the cervix was found enlarged, hard, ulcerated posteriorly, and placed high up; walls of vagina smooth; there was a foetid discharge; the body felt soft enlarged, and mobile.

October 1, 1898.—Patient having been duly prepared and the bladder emptied, was anæsthetised with gas and ether. Vaginal hysterectomy was performed in the way so often described by him (Dr. Purcell); when the fundus was being anteverted, it was found soft, elastic, and distended; when a volsella was applied to its anterior surface, pus being seen to ooze out in the tract of the teeth, a warm solution of boric acid was turned on and the rest of the operation was performed under the irrigating fluid. The anterior wall was incised and the pus evacuated—fully half a pint; the uterus was removed. Vessels were tied with silk, one thread being left long. The peritoneal flaps were caught with torsion forceps posteriorly and anteriorly, everted and approximated, the forceps made to cross, so that the anterior peritoneal flap was drawn backwards, and the posterior peritoneal flap drawn forwards, the forceps remaining on until the vaginal cavity was plugged with iodoform gauze; stress was laid on this, for the gauze was not passed up beyond the peritoneum into the pelvis. The forceps were then slipped off. The ovaries were not removed.

A self-retaining rubber catheter was inserted into the bladder, and a  $\frac{1}{2}$ -gr. morphia suppository was lodged in the rectum. After the seventh day the temperature fell to normal; convalescence was uneventful. She made a rapid recovery and was discharged from hospital three weeks after operation.

ADJOURNED DISCUSSION ON MR. STANMORE BISHOP'S  
PAPER ON THE COMBINED METHOD IN PELVIC  
SURGERY.

Dr. HERBERT SNOW said that they could discuss the method with greater advantage were it not that in only one of Mr. Bishop's cases was the method deliberately adopted; in the other three it was done as a matter of necessity. Most of them would feel that in these three cases it would have been better to begin by the abdominal route. Mr.

Bishop summed up the relative advantages of the two plans, but he could not agree with him that mere laparotomy meant much or any shock. Most of the cases originally described as shock were really either concealed hæmorrhage or septic peritonitis ; it was unsafe to speak of shock in the absence of a *post-mortem* examination. Many operations by the vagina were accompanied by much hæmorrhage and some by shock. Could any advantage by the vaginal route compensate for the disadvantage of having to go on to laparotomy after getting the hands contaminated by pus and mucus ? He thought it was better to make up one's mind beforehand which route was preferable ; and only in cases of absolute necessity to pass from one to the other.

Mr. MAYO ROBSON (Leeds) said that he could not agree with every point in the paper, because he also felt that they ought to make up their minds beforehand which route to follow. At the same time every operator ought to be prepared to follow up one route by another. For example, in some cases of vaginal hysterectomy it might be necessary to open the abdomen ; but this must be very rare—at least, it was so in his own experience. He had had to do it in two or three cases ; Mr. Bishop's cases would seem to show, however, that the necessity might arise more often than he had thought. As a rule, in a case of hysterectomy, if he found that he could not bring the uterus down, he would prefer not to operate at all ; for in such cases life was probably not prolonged. For most cases he preferred the abdominal route, especially if there were a pint or more of fluid, in cystic or inflammatory cases ; and therefore he thought it would be only in very few cases that one would have to use the combined method. But it was an advantage to them to have the experience of one who had done many of these operations ; and they should all be prepared to do the same if necessary.

Mr. BOWREMAN JESSETT agreed with the previous speakers that it was desirable to decide beforehand what one was going to do ; but this might not be possible before



putting the patient under the anæsthetic. If examination under ether showed that there was much fixation, he thought it better to begin at once by the abdominal route. In Mr. Bishop's first case the vaginal way was, no doubt, the proper one to begin with. He had himself had to do the combined operation in several cases ; one was a sloughing fibroid, where it was found that it would not be possible to complete the operation through the vagina. If an operation had been begun, as in Case III., by the vagina, and it was found that there was much pus, and the patient was then placed in the Trendelenburg position, he thought that there would be great danger of the pus passing into the peritoneal cavity—a view that was supported by the fact that the patient died on the next day.

Mr. J. W. TAYLOR (Birmingham) pointed out that there were two distinct questions in the paper : (a) the combined method in the treatment of myoma ; (b) the same in the treatment of inflammatory conditions. In the first class, the combined method was a valuable one, especially because of the necessity of thorough disinfection of the vagina ; and also because the operation was safer if the uterine arteries were first secured through the vagina. This plan shortened the duration of the abdominal operation, which was an important thing. In inflammatory conditions, he thought that they did not yet know how much could be done through the vagina. They were still in the position of learners, as they were twenty years ago with abdominal operations. As a consequence operations by vaginal section, which with perseverance might be satisfactorily completed, were now sometimes abandoned for the older and more familiar method of abdominal section.

Mr. J. FURNEAUX JORDAN (Birmingham) cordially approved of the combined method for hysterectomy, for the reasons given by Mr. Taylor, and also because it must be remembered that work done by the vagina was done extra-peritoneally. But in other cases it was better to make up one's mind beforehand, since it was to save making the

abdominal incision that the vaginal route was adopted in some cases. Many cases could be quite well treated by the vaginal route, such as small cysts and adherent appendages. Much of this work was done by touch, whichever route was adopted, and it could be done just as well through the vagina as through the abdomen : for one could see just as much by one as by the other route, namely, nothing. He had done about ten vaginal cœliotomies ; in one he had to open the abdomen after all ; but in most cases a careful diagnosis beforehand would obviate this necessity. For inflammatory conditions one or other route should be adopted ; he thought the abdominal was usually the better ; but in some cases, if the patient could not stand an abdominal operation, a vaginal one might be enough to cure her. He had had six such cases, and in all of them recovery had been complete. He believed that the mortality of pyo-salpinx was greater than that of any other abdominal operation ; but he should not describe the plan he mentioned as a combined method ; it was a vaginal operation.

Dr. MACPHERSON LAWRIE (Weymouth) said that it must always be inadvisable to do the combined operation if either one or other could be done. In many cases, to begin by the vaginal operation was only to unnecessarily bathe one's hands in pus and other discharges ; and on the whole he thought that cases requiring the combined method must be few and far between.

Dr. HEYWOOD SMITH commented on the view expressed by Mr. Bishop, that the combined method was quicker, and thought it would not be found so, owing to the time that would be lost in washing the hands and changing the position of the patient. Some of the remarks made had been somewhat off the point, because the question before them was not to decide between the vaginal and the abdominal operation, but between either of these and the combined plan. If it were a question between the two, he thought the abdominal was safer, except in cases of cancer.

Dr. PURCELL stated that the double method originated

with Martin, of Berlin, who was, however, so unfortunate in his early cases that he gave it up. All depended in the first instance on the question of diagnosis. For vaginal hysterectomy the uterus must be movable, and small enough to come through the vagina. If large or fixed, the abdominal was the only possible route, unless section of the uterus *in situ* were carried out. The combined plan was to be regarded as a method of expediency when the diagnosis had proved faulty, and the operation could not be completed by the vagina.

Dr. ARTHUR GILES remarked that he had had no experience of the combined method in practice; but had been much interested both in this and in the vaginal radical operation, while engaged on the translation of Professor Landau's monograph on the subject. It seemed to him that the *raison d'être* of the vaginal operations was the avoidance of the necessity for opening the abdomen; there was nothing that was done by the combined route that could not be done by the abdominal alone; consequently he thought that to open the abdomen after beginning the operation through the vagina was practically a confession of failure; it meant that the operator had found himself unable to carry out what he had originally set himself to do. Mr. Jordan had expressed the view that abdominal operations for pyo-salpinx had a special high mortality. This was not his own experience. It so happened that a rather large proportion of his abdominal operations had been cases of this kind, and he had so far not lost one.

Mr. BELLAMY GARDNER, speaking from the point of view of the anæsthetist, said that many cases began to show some signs of collapse after about three-quarters of an hour, whether the operation was vaginal or abdominal; but he thought that shock depended more on the amount of blood lost than on the opening of the abdomen. Vaginal operations often meant much loss of blood, even more than abdominal ones, because in the latter class of case everything could be seen. To the anæsthetist it would appear

that there was very little shock as long as hæmorrhage was controlled.

The PRESIDENT called attention to the fact that Mr. Bishop was forced to the consideration of the combined method by cases in which operation had been too long delayed. A lesson to be drawn from all such cases was the danger of postponement of operation, and tentative treatment. In the matter of diagnosis every man must, of course, be sometimes wrong. He had seen some of the best surgeons in Europe at fault, some of them even after an examination under anæsthesia. Therefore, to say to a man "This is your fault for making a wrong diagnosis," was going too far. For himself, he thought he would have been inclined in Mr. Bishop's cases to open the abdomen in the first instance. But he took it that Mr. Bishop did not go so far as to say that the combined method should be adopted deliberately. Much had been said about the cleansing of the vagina; he would like to say that there was no more difficulty about the vagina than about the abdomen, and there ought not to be any difficulty about passing from one to the other if antisepsis had been properly secured. As regards hysterectomy, he thought that for a large number of conditions the vaginal did not compare well with the abdominal method, even in the skilled hands of Landau himself, and adhesions could not be dealt with satisfactorily by the vagina. The duration of an operation was not such an important thing as the careful attention to hæmostasis and to the union of the wound; but his impression was that vaginal operations were, all in all, more prolonged, and that there was more hæmorrhage. In conclusion, the Society was much indebted to Mr. Bishop for his paper, which dealt with some of the most recent work in gynæcology.

Mr. STANMORE BISHOP, in reply, thanked the Fellows for their interest in his paper, and for their careful criticisms. He was glad to find that the plan he had advocated was not without adherents. He quite agreed with the doctrine

that it was desirable to make up one's mind beforehand which method to adopt ; but there were cases in which the best men might fail to be right, and, moreover, complications might arise, as to the occurrence of which no man could be certain before the operation had begun. In many cases it was apparent at once which method should be pursued ; in others there was no such certain indication. He had looked up what had been said by the advocates of the vaginal methods ; and he thought that anyone who read Landau's "Vaginal Radical Operation" would have the feeling that an operation once begun by the vagina must be finished by the vagina ; but the point he wished to emphasise was this : Was it necessary to push the operation to these extremes ? Was it not in many cases better to open the abdomen, than to complete by the vagina at all costs ?

**BRITISH GYNÆCOLOGICAL SOCIETY.**

THURSDAY, JANUARY 12, 1899.

Dr. H. MACNAUGHTON-JONES, PRESIDENT, IN THE CHAIR.

PRESENT : About 120 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : J. F. Barrett, Highgate ; A. W. H. Edgelow, L.S.A., Kensington ; J. S. McArdle, F.R.C.S.I., Dublin.

The following gentlemen were proposed for election : S. Jervois Aarons, M.D., London ; John Henry Brown, M.D., Sheffield ; Andrew Horne, F.K.Q.C.P.I., Dublin ; Trevor Jones, M.R.C.S., South Wales ; Percy Lewis, M.D., Folkestone ; R. P. R. Lyle, M.D., Dublin ; G. R. Radmore, L.S.A., Wandsworth.

The Council nominated for election as Honorary Fellows the following two distinguished gynæcologists : Howard A. Kelly, M.D., Professor of Gynæcology in the Johns Hopkins University, Baltimore, U.S.A. ; and Frederic Schauta, M.D., Professor of Gynæcology in the University of Vienna.

**ANNUAL MEETING.**

*Treasurer's Report.*

The Treasurer, in presenting his report for the year 1898, congratulated the Society on the large accession to the number of Fellows. This had been brought about by the energy and popularity of their President, Dr. Macnaughton-Jones, and he was pleased to hear he had consented to fill that post for a second year.

It was a gratifying fact that the Fellows' subscriptions for the year under notice amounted to the large sum of

£414 7s. This was £59 better than the preceding year, and was the largest total which had yet been reached.

In other respects the accounts so much resembled those of previous years, that there was little to draw attention to.

The amount derived from advertisements in the Journal was £29, the same as the year before. It seemed hopeless to expect any great increase from that source.

The expenses connected with the production of the Journal and sending notices of meetings to the Fellows of the Society were almost identical with those of the previous year.

One item, he was pleased to say, would not appear in the next account. The cost of repairing the small room given up by the Society had been £27. It had been found necessary to meet this expenditure.

The balance at the end of the year was £188, against £199 brought forward at the commencement. No change had been made in the securities held by the Society. The accounts had been audited by Dr. Heywood Smith and Dr. Charles Bennett.

Dr. C. H. F. ROUTH moved that the best thanks of the Society be given to Dr. Mansell-Moullin for his valuable services as Treasurer during the past year, and that the Report be adopted. He congratulated the Society on the fact that they were now much more prosperous than they ever had been. He was very glad that Dr. Mansell-Moullin had consented to continue to act as Treasurer of the Society.

Dr. G. ROE CARTER seconded the motion. He need not, he said, add anything to what Dr. Routh had so ably said, except to express the hope that Dr. Mansell-Moullin might long continue to carry on the duties which he had discharged so efficiently.

The PRESIDENT, in putting the motion, presented to Dr. Mansell-Moullin an illuminated address from the Council, congratulating him on his recent marriage, and expressing their cordial appreciation of the many and varied services he had rendered to the Society during

**The British Gynaecological Society.**

Dr.	RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING DECEMBER 31, 1898.	Ct.	
	£ s. d.	£ s. d.	
To Balance brought forward December 31, 1897	... 199 6 6	By Cost of Journal, Notices of Meetings, &c. ...	... 251 2 8
„ Fellows' Subscriptions	... 414 7 0	„ Rent and Attendance	... 54 15 0
„ Advertisements in Journal	... 29 9 1	„ Honorarium to Editor	... 52 10 0
„ Dividends on Investments	... 10 12 8	„ Reporting and Sub-editing (three quarters)	... 19 13 9
„ Interest on Deposit at Bank...	... 1 14 10	„ Typing ...	... 21 5 0
		„ Illustrations ...	... 6 0 3
		„ Hire of Microscopes ...	... 4 4 0
		„ Expenses connected with Entertainments ...	... 17 13 6
		„ Repairs to Society's Room ...	... 27 2 3
		„ Collector ...	... 2 2 0
		„ Bank Charges ...	... 0 15 2
		„ Postages, Secretaries and Treasurer	... 10 11 0
		„ Balance at Bank	... 174 2 6
		„ „ in hand	... 13 13 0
			£655 10 1

We hereby certify that we have examined the above account with the counterfoil receipt books and vouchers in connection therewith, and find it to be correct. We also certify that the Society holds the following securities: £270 Grand Trunk Railway 4 per cent. Debenture Stock, £5 Caledonian Railway 4 per cent. Preference Stock, and £100 on deposit account with the London and County Banking Company, all in the Treasurer's possession.

HEYWOOD SMITH, } *Auditors.*  
C. H. BENNETT, }



fifteen continuous years of office as Secretary, Member of Council, Vice-president, Librarian and Treasurer.

The vote of thanks was then carried with acclamation.

Dr. MANSELL-MOULLIN, in acknowledging the vote of thanks and the presentation of the address, said that he felt very grateful for and complimented by this token of esteem and approval. It had given him much pleasure to act as Treasurer. He was glad that the progress of the Society had been uninterrupted, and hoped that it would long so continue.

#### *Editor's Report.*

I have, Sir, much pleasure in reporting that the Society's Journal continues to be well supported by the Fellows, both at home and abroad, and that there are many evidences of its being very widely read.

Those modifications in detail which were tentatively introduced and commented on in my last Report have been favourably received and their adoption completely justified.

The Society's proceedings have been fully recorded in his usual complete manner by Dr. Giles. It is not for me here, however pleasing the duty, to dwell on their wide scope and interest.

The Original Articles have been of more than ordinary excellence, and without troubling you with too many details, it is impossible for me not to specially allude to Mr. Taylor's classical lectures on "Extra-Uterine Pregnancy," the President's address on the "Gynæcology of To-day," and Dr. Mary Dixon Jones' paper on "Hysterectomy."

The Summary of Gynæcology and Obstetrics has, owing to the adoption of a smaller type, become much fuller and proportionately more valuable. This development has been much appreciated by many Fellows, and further improvements are in contemplation.

In this department of the Journal I have especially to note the practical help received from my collaborators, Dr.

Macan and Dr. Edge, Dr. Hebert, Dr. Jordan and Dr. Travers.

In turning from the past to the coming year, it has been noted by others as well as by myself, that the Journal was becoming too important an organ to be dependent on the exertions of any one Hon. Editor. Not only must the Journal suffer at times from the inability of the Editor to give to it more than a limited proportion of his working hours, but as it would be possible for any Editor to continue such duties for only a very short number of years, there must consequently ensue periodic changes of management, with their accompanying dislocations of policy.

The Council have therefore—I think wisely—decided, with the view of establishing the management of the Journal upon a sounder and broader basis, to appoint three Editors instead of one. In this way, though the work of each Editor will be less exacting than that of the *one* at present, the consequent output will be larger and the various departments of the Journal can be further amplified. At the same time, should either one of these Editors be unfortunately incapacitated through ill-health or resign from any cause, the working of the Journal would continue on the same lines. It would also, no doubt, be found much less difficult to fill up such a vacancy in the staff than it would be to find some one willing to undertake the heavy responsibilities of sole Editorship.

I am glad to report that Drs. Macan and Giles, who have already manifested their interest in the past by their valuable assistance, have agreed to be associated with myself in the Editorship. With such support, I, personally, can look forward with much less apprehension than usual to the coming year, and I trust the Fellows may be able to share my sanguine anticipations.

Dr. T. M. DOLAN, J.P. (Halifax), moved that the best thanks of the Society be given to Dr. Schacht for the way in which he had conducted the Journal, and that the report be adopted. He could speak with some experience when

he said that he thought that the BRITISH GYNÆCOLOGICAL JOURNAL was one of the best Journals of contemporary gynæcology in existence. It was one which would increase in value. Their thanks were due to Dr. Schacht for the time he had given to making the Journal a success. He hoped that the new editorial departure would be found satisfactory ; of course there ought to remain one master-mind, one Editor-in-chief who would be responsible for the whole Journal. He believed that the Journal would become a most valuable property of the Society.

Dr. JOHN SHAW seconded the motion. Knowing, as he did, something of the labour involved, he congratulated Dr. Schacht on having the responsibility shared ; but he hoped that Dr. Dolan's remarks on the necessity of having one chief Editor would be borne in mind.

The vote of thanks was carried unanimously.

*Election of Officers and Council for 1899.*

The Scrutineers, Mr. H. BELLAMY GARDNER and Mr. J. FURNEAUX JORDAN, announced that the gentlemen nominated by the Council for the respective offices had been unanimously elected, as follows :—

*Hon. President.*—R. Barnes, M.D., F.R.C.P., London.

*President.*—H. Macnaughton-Jones, M.D., F.R.C.S.I., London.

*Vice-Presidents.*—G. G. Bantock, M.D., London ; A. E. Cordes, M.D., Geneva ; G. Elder, M.D., Nottingham ; R. H. Hodgson, M.D., London ; F. Bowreman Jessett, F.R.C.S., London ; \*J. Macpherson Lawrie, M.D., Weymouth ; J. J. Macan, M.D., London ; \*R. Milne Murray, M.D., Edinburgh ; \*R. D. Purefoy, M.D., Dublin ; F. F. Schacht, M.D., B.A., London ; W. Travers, M.D., F.R.C.S., London ; Professor Hector Treub, M.D., Amsterdam.

*Treasurer.*—J. A. Mansell-Moullin, M.D., London.

*Council.*—W. Armstrong, M.R.C.S., Buxton ; \*N. White-law Bourns, M.D., London ; \*Professor Murdoch Cameron, M.D., Glasgow ; \*John Campbell, M.D., F.R.C.S., Belfast ;

\*G. Roe Carter, M.R.C.P.I., London ; A. Donald, M.D., Manchester ; \*T. Eastes, M.D., F.R.C.S., Folkestone ; F. Edge, M.D., F.R.C.S., Wolverhampton ; C. H. Gage-Brown, M.D., London ; \*H. Bellamy Gardner, M.R.C.S., London ; C. Godson, M.D., London ; H. S. Howell, M.D., London ; \*J. Furneaux Jordan, F.R.C.S., Birmingham ; Skene Keith, M.B., F.R.C.S.Ed., London ; Christopher Martin, M.B., F.R.C.S., Birmingham ; \*T. Morton, M.D., London ; W. H. Newnham, M.B.Cantab., Clifton ; Professor A. W. Mayo Robson, F.R.C.S., Leeds ; \*C. H. F. Routh, M.D., London ; \*W. Slimon, M.D., London ; E. T. Smith, L.S.A., London ; Heywood Smith, M.D., London ; R. T. Smith, M.D., London ; D. Thomson, M.D., London.

*Editors of Journal.*—F. F. Schacht, M.D., B.A., London ; \*Arthur E. Giles, M.D., B.Sc., London ; \*J. J. Macan, M.D., M.A., London.

*Hon. Secretaries.*—George E. Keith, M.B., London ; Arthur E. Giles, M.D., B.Sc., London.

*Vote of thanks to Retiring Officers.*

Mr. J. FURNEAUX JORDAN proposed that the best thanks of the Society be given to the retiring officers for their valuable services during the past year. He took occasion to compliment the Society on its executive ; they could not, he thought, have had better President, Treasurer, Secretaries and officers than they had had.

Dr. C. H. BENNETT seconded the vote of thanks. All the offices involved a great amount of work ; but he supposed that few people knew how much was involved in the work of the Treasurer. Their Treasurer's book was worth looking at as an example of how accounts should be kept. Speaking as Auditor, he could say that though he had had a good deal of experience of accounts he had never seen books better kept in his life, and he hoped that Dr. Mansell-Moullin would long continue in office.

The motion was carried unanimously.

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\* The asterisk indicates the new names proposed by the Council for the respective Offices.

The President then delivered his Address.

GENTLEMEN,—Before proceeding to the subject of my address, I have to discharge a sad duty which falls to the lot of the President at each annual meeting, namely, to refer to those Fellows whom death has removed during the year. In 1898 we lost five Foundation Fellows of the Society : Dr. Edwin Child, of New Malden, Surrey, Mr. John Hamilton Craigie, F.R.C.S., Dentist to the Chelsea Hospital for Women, Dr. Henry Lewis, of Folkestone (who had served on the Council from 1895 to 1897), Dr. Charles Egerton Fitzgerald, of Folkestone (who had also been a member of Council during 1888 and 1889), and Professor John Wallace, of Liverpool (who had been a Councillor from 1884 to 1886, and Vice-President from 1894 to 1896, being re-elected to the Council during the past year). Of two of these late Fellows more than a passing word must be said.

Dr. Fitzgerald has been a frequent attendant, both at our meetings and our social re-unions, at which his genial personality will long be remembered. So late as our Annual Dinner in November last he was amongst us. Dr. Fitzgerald occupied a prominent position in Folkestone, not only as a physician, but also as a scientific writer and lecturer. He was the founder and president for twenty years of the Folkestone Natural History Society. To him the Folkestone Medical Society mainly owed its origin, and he was its President. He was an ardent hygienist, and took an active part in all matters appertaining to sanitary science, more particularly those bearing upon hospitals and home nursing. It is not so long since that he wrote upon the subject now so prominently before the public—the open-air treatment of tuberculosis. Folkestone has lost in him a talented and cultured physician, and our Society an able and esteemed member.

Professor John Wallace held every office of distinction and responsibility that the North of England could confer upon him. He held the post of Professor of Midwifery and

Gynæcology in University College, Liverpool, and was examiner in Obstetric Medicine and Gynæcology in Victoria University. He was Obstetric Physician to the Liverpool Royal Infirmary, and had held the Presidential Chair of the North of England Obstetrical and Gynæcological Society. By him the *Liverpool Medical and Chirurgical Journal* had been ably edited. He was the author of many original and practical essays, both in obstetrics and gynæcology. In him England has lost one of her most distinguished gynæcologists, and most able of writers.

#### SOME LESSONS IN GYNÆCOLOGY LEARNED IN 1898.

In bringing to your notice some lessons in gynæcology learned during the year that has passed, I am induced to say a few words on the *raison d'être* of a Gynæcological Society in this, the last year but one of the nineteenth century. At the recent Annual Dinner of this Society, the venerable and distinguished President of the General Medical Council, in proposing the toast of the British Gynæcological Society, made the pertinent enquiry, "What are the attributes which call, in its particular interest, for such a toast?" In other words, what has this Society done, and what is it doing, to entitle it to the esteem of the profession at large, and the respect of those who at the present time are working in the van of that department of medical science with which it has especially to do. I think it can be affirmed with absolute truth, that in no field of surgery have the advances of the art been more rapid and striking than in that of gynæcology. The workers of this century have handed on to those of the next, from out of the crude and chaotic elements in which they worked for many years, a system of treatment founded upon a solid basis of well ascertained anatomical, physiological, and pathological facts. Not only have we given to us a fairly complete codification of the different diseased conditions which attack the various structures entering into the com-

ponent parts of the pelvic organs of women, enabling us to apply well defined rules of surgical treatment, palliative or radical, but these surgical procedures themselves have been most critically differentiated so as to adapt them with the most perfect safety to the woman, and the most skilful removal or conservation of the affected parts. A modern gynæcological operation, from its inception to its close, proceeds on well pre-determined lines in the execution of all its details, into which no haphazard methods, or any leanings on chance, are permitted to play any part. It would be superfluous to show the truth of this statement by referring to the many surgical procedures resorted to, from the external organs of generation to the uterine adnexa, with which you are familiar. And it is well that a Society such as ours, professing to take its place in the forefront of progressive gynæcology, should realise clearly its position. It is with a scientific society as with any other slowly evolving art : the developing stages consequent upon new acquisition of knowledge and *technique* leave behind them, imperceptibly it may be at the time, evidences of the disregarded practices and appliances which have gradually led up to its more complete, though possibly not perfect, development. It follows that at any particular time, when such evolutionary process is at work, we must have transitional phases between such obsolete views or practices, and the more perfect applications of the art which has grown out of them. Behind us is a well-defined line of demarcation separating now totally disused and antiquated modes of practice ; before us lies a period of future possibilities, at which we aim through our instinctive dissatisfaction with even the most complete of our present procedures and results. A Society lives in this passing phase of dissatisfaction and distrust of itself, and its sole object is by record, observation, and experiment, to advance still more to faultless and finished procedures. A Society does not exist to disinter dead hypotheses and practices, and of all the aggravating and useless expenditures of time, that of flogging the dead

carcase of some jaded argument for the purpose of self-glorification is the worst. In gynæcology, for example, it is a fact established by many thousands of experiments that removal of every form of uterine tumour can be safely conducted by hysterectomy; that, with or without the uterus, the most extensively diseased adnexa can be removed by cœliotomy; that ovarian tumours, with every conceivable complication, can be dealt with successfully by ovariectomy; that myomata of a certain kind can be most successfully ablated by the vaginal route; that certain adnexal conditions can be best dealt with in the same manner, and that conservative operations on these organs can be most successfully dealt with by colpotomy, anterior or posterior; that cancer of the uterus, save in very rare conditions, such as malignant disease complicated by a large myoma, is best attacked by vaginal hysterectomy; that drainage is not necessary, save under conditions which are fairly defined and settled, and that once having decided upon drainage, the mode of carrying it into effect, whether after laparotomy or vaginal hysterectomy, has been absolutely determined and is a matter of every-day routine.

To exhibit specimens merely to prove any of these points is an unjustifiable expenditure of valuable time. Also it may with truth be said that every argument that can conceivably be advanced in regard to certain details before, during, and after operative procedures, has been debated and written of to the death. I might take, for example, the preparation of the patient, so far as diet, the preparation of the bowel, the disinfection of the parts, and narcosis are concerned; the advantages of the Trendelenburg position, and the employment in emergency from collapse of artificial serum; the method of closing the abdominal wound, and the abdominal *toilette* generally; the after-treatment of a patient, and all the various complications which are incidental to all serious cases of abdominal or vaginal cœliotomy. It is rather humiliating for a man to find that he has been absorbing time in discussing and ventilating his views upon



subjects which he can—if he will only take the trouble—learn have been all exhaustively considered some few years before.

But turning to these very points that I have taken for illustration, let me indicate some perfectly justifiable matters for discussion, that the exhibition of otherwise uninstructional specimens may warrant. We may broadly divide under three heads the exceptional circumstances or conditions connected with a case, which attach to it sufficient interest to make it worthy of discussion: (1) clinical facts, signs and symptoms, leading to difficulty and *errors of diagnosis*; (2) unique, serious, and unexpected complications arising during operation, which have to be dealt with by improvised methods calling for original suggestion and application on the part of the operator; (3) pathological conditions, the interest of which depends upon their rarity, or the bearing they may have upon treatment, and the demand for, or the nature and extent of, operative procedures. In uterine fibroids there are still such debatable questions as the mode of securing hæmostasis in certain exceptionally difficult cases of hysterectomy complicated by the presence of broad ligament tumours and inflammatory affections, or with growths of the adnexa; the management of pregnancy complicated by fibroid; extra-uterine foetation associated with myoma and adnexal disease and tumours; conservative treatment of the uterus by myomectomy or enucleation of fibromatous tumours, as advocated before the Society recently by Dr. William Alexander. With regard to diseased adnexa, there are many interesting points bearing upon symptomatology on which much light may be thrown by more careful examination of the tissues removed, for it is a certain fact that pain, difficulty of locomotion, and various disturbances of the nervous system, are caused in some women by pathological changes in the ovary in no way proportionate to these symptoms, and for which no relief can be found save by removal of the diseased organs. Evidence is

required, drawn from the after-history of cases of conservative surgery of the ovaries and tubes, as to the results of efforts to save cystic and cirrlosed ovaries, and tubes that have suppurated, or have been distended with serum or blood. Adnexal tumours which have a bearing on the question of the vaginal or abdominal routes of operation, through the adhesions which have formed, the size and character of the tumours, their association with fibromata or malignant disease of the uterus, have also a special interest. There is the question, both pathological and operative, of ovarian and broad ligament hæmatoma and blood cysts, with the bearing which these have on the occurrence, as well as the histological and pathological sequences, of ruptured tubo-ovarian and tubal gestation.

Ovariectomy for ovarian cystoma must have occasionally certain complications which so involve the operation of ovariectomy that the narration of the case, independent of any specimen for exhibition, cannot fail to be of importance. I refer to various types of blood cysts, suppurating and malignant cystoma, and such difficult complications as extensive peritoneal, omental and bowel adhesions, an extreme instance of which, occurring recently in my own practice, I shall presently refer to. And here I may advert to what appears to me to be a most important want in the proceedings of our Society, namely, the backwardness of our Fellows in bringing forward cases which have presented special features of *clinical* interest. There appears to be an idea that unless the proof of a surgical triumph can be obtained in the shape of a pathological specimen, such cases should be allowed to pass unrecorded. May I be permitted to say that there is a certain acknowledgment of defeat associated even with the greatest triumph in the removal of important organs. After all is told, it is but a demonstration that disease has baffled the physician and that nought save radical removal and mutilation has saved the patient. It would be easy to instance a number of affections of all parts of the sexual organs of supreme

interest to the gynæcologist, and more especially to the practitioner who may not look upon himself in the light of a special operator, which should find a place in our debates and Transactions, and which would give rise to most instructive discussion. Proofs of truly conservative gynæcology would here have their appropriate place, and general therapeutics, including the administration of remedies, should at least be thought worthy of mention at the meetings of our Society. At present we seek in vain in our Transactions for evidence that any form of general treatment and medication, not to speak of any special drug, is of use in resisting the inroads of pelvic disease in women. Not long since I heard an able and distinguished gynæcologist, for whom I have the greatest respect and whose operative skill is beyond question, declare, jocularly, that he "knew nothing of physic." Surely prophylaxis and treatment other than purely operative have their appropriate place in anticipating and resisting the inroads of disease. Were it possible to show in the Gynæcological Society, by some radiographic method, organs which had been threatened with or passed through some critical and serious morbid change (during the stages of which the life of the patient had been gravely threatened) now restored, physiologically and histologically to a condition of health, we must acknowledge that at least such an exhibition of living pictures would be more satisfactory to our patients than any number of dead specimens—though, of course, pathologically and financially, we should be the losers! Those of our Fellows largely engaged in general practice, as many of them are, could by such records considerably advance the interest and value of our debates.

In this direction the value of the ovarian secretion as a therapeutic agent is worthy of the most careful consideration. Indeed, the correlation between unstable protagon compounds, as lecithin, and the phosphatic compounds in the tissues, with the influence of both on nutrition and metabolism generally, has not yet been sufficiently studied.

However this may be, the experiments of Curatulo and Turalli prove that distinct effects on oxidation are caused by the removal of the ovaries, and more curious still are the experiments of Krauer, which prove that even transplantation of the ovaries to distant parts does not affect the development of the Graafian follicles, nor does it change the normal structure, while Chrobak, with the ovarian extract of the cow, produced most important effects on symptoms due to the induced climacteric. Others, including Stehmen, of Chicago, influenced by the analogy existing between the thyroid secretion and that of the ovary, by the administration of thyroid tablets affected in a striking manner patients suffering from a variety of symptoms, mental and other, assumed to be due to deficient ovarian secretion. To Dr. C. H. F. Routh is due the credit of having been the first in the United Kingdom and in this Society to draw special attention to this physiological function.

I might instance questions of such common occurrence as the treatment of pruritus and eczema vulvæ, the management of granular vaginitis, the results of curettage in cases of hæmorrhagic endometritis, fungous endometritis, chronic suppurative endometritis, associated with suppurative conditions of the adnexa, and the all-important bearing of gonorrhœal infection on inflammatory conditions of the uterus and adnexa. I include those facts of etiological and bacteriological moment which bear upon the life history of the gonococcus, its struggle for existence in the generative organs, the question of latency, survival, and reproduction, as well as the effect which the failure of detection of the organism may have upon our diagnosis and prognosis.

In this connection I may say that I view a negative result following the examination for the gonococcus as in no way disproving the specific nature of a discharge, its presence being dependent upon the date of infection, its duration, or fresh exacerbations and recurrent infection of the genital canal. But I believe that in the great majority of cases in which there is suppurative endometritis with

double pyo-salpinx, recent or latent gonorrhœal infection is the cause of the mischief.

The last example I referred to was drainage, and here again the relative advantage—under certain exceptional conditions—of different methods may be demonstrated, while on the other hand, instances of harm following upon its adoption, and the best means of dealing with such ill consequences, might be shown. Mr. Jessett's ingenious method of dealing with a large rent in the bladder, which he brought this year before the Society, is a case in point.

And speaking of the bladder reminds me that there is a large field open to gynæcologists, and especially to our younger Fellows, to perfect themselves in the exploration of the bladder by cystoscopy, by repeated experiences derived through frequent examination. Two rival methods are in the field. The one which is familiar to all is that of Howard Kelly. This has the disadvantage, which is but a slight one, of requiring an anæsthetic, and the dilatation of the urethra in order to explore the bladder, or to catheterise and sound the ureter and kidney. The other method is that by means of the cystoscope of Dr. Kolischer of Vienna, practised also by Professor Winter of Berlin, which I here show you. Recently, through the kindness of Dr. Kolischer, I had the opportunity of seeing him demonstrate various morbid conditions in the Krankenhaus in Vienna, in Professor Schauta's Klinik, affections of the vesical mucosa, and exploration and catheterisation of the ureters. This was done without an anæsthetic, and without dilatation of the urethra, and thus medication was applied to the bladder wall without any difficulty. It is not necessary to say of what vital moment it is in diagnosis to determine the condition of a ureter, to catheterise a kidney, to ascertain which ureter or kidney is involved, and to perform certain operative procedures on the wall of the bladder, all of which can be done by means of this convenient appliance of Dr. Kolischer.

Before passing from this brief sketch of some of the

paths along which our Society may advance in the direction of original observation, research, and operative *technique*, there is a matter that I will very briefly allude to, for it is a topic of such supreme importance to the profession that nought save a mere reference would be warrantable on an occasion like the present. Nor will I here express any opinion, or enter into a discussion of my reasons for suggesting that it is such a Society as this that ought to seriously consider the propriety of reviewing the present position in its medical or medico-legal bearings of the whole subject of accidental or intentional abortion. Without, as I have said, pronouncing any opinion, I will ask the Fellows of this Society if they consider that the expert scientific evidence constantly brought forward is satisfactory, and such as is calculated to fulfil, without favour or prejudice, the ends of justice. Leaving out of consideration incidental circumstances, to which peculiar and possibly strained significance is given by ignorant minds, are there not points of vital moment, both clinical and pathological, which are most loosely and inaccurately adjudicated upon? If this be so, would it not be well that a Committee, composed of expert pathologists and men with large clinical experience, should be nominated to report on the entire subject, such report being founded on a careful investigation of published cases bearing upon it. It would take into consideration all the pathological points at issue needful to arrive at a correct conclusion, and finally it would sift all the clinical facts which have to be reviewed in such cases, and apportion to each its proper value when weighed in relation to all the antecedent and accompanying facts. It might be possible to associate with this body in its deliberations a few medico-legal experts, and one of our experienced medical coroners. Such a Committee would require to sit periodically for some months, and should then furnish its report through the Council to the Society, which might amend it before endorsement, and this authoritative expression of opinion should then

be forwarded to the proper quarters. I venture to throw out this suggestion.

Before answering the natural question "What has the British Gynæcological Society done during the past year to promote and advance our art?" I will in a few sentences summarise its work. I find that the following operations have been illustrated by interesting specimens exhibited by the Fellows: abdominal pan-hysterectomy, nine; vaginal pan-hysterectomy, ten; hysterectomy by cœliotomy, seven; oöphorectomy, colpotomy, and ovariectomy for cystoma, seventeen; extra-uterine foetations, three; myomectomy, one. Special discussions have taken place on the treatment of dysmenorrhœa, on hæmorrhagic endometritis, the question of the enucleation of uterine fibroids, on risks to the ureters during hysterectomy, and on the after-treatment of cases of abdominal section.

Addresses have been delivered on the operative treatment of extra-uterine gestation, "the position of gynæcology to-day," and combined abdominal and vaginal ovariectomy. If we now reply to the query I have asked, I think we may thus briefly summarise and condense the more important results of our work. Attention has been drawn to the necessity for a clearer differentiation in the etiology and treatment of hæmorrhagic endometritis, and an enquiry into the etiological significance of syphilis in this disease; instructive suggestions have been made on the diagnosis and symptomatology of extra-uterine foetation; there has been an exhibition of a unique collection of microscopical specimens illustrative of the rarer pathological conditions of the uterus and adnexa; specimens have also been shown demonstrating the more frequent occurrence of sarcoma of the ovary. We have discussed the consideration of the comparative value of enucleation of uterine fibroids as a conservative operation, and as an alternative to hysterectomy and pan-hysterectomy; the importance of operation on uterine fibroma complicating pregnancy; the value of immediate opening of the

abdomen when constriction or injury of the ureter is suspected after hysterectomy, and the comparative rarity of injury to the ureter, when considered with the number of operations performed (only ten cases in several thousands of operations having occurred in the practice of such men as Martin and Landau of Berlin, Doyen of Paris, and Kufferath of Brussels). The question of the relative importance of Dudley's operation has been raised in cases in which it is specially indicated for dysmenorrhœa. Some debatable points in the after-treatment of patients on whom abdominal section has been performed, and the consideration of the combined abdominal and vaginal operation in cases in which there are inflammatory states of the adnexa present, as well as a better understanding of the grounds on which the vaginal route is selected, have been before us.

I should not forget to mention an interesting demonstration which was given before the Society by Dr. Newman, of the different organisms which are found in the female genital organs. The address of Professor Martin, to which I have incidentally referred, and which has now appeared in full in the *Journal of the Society*, was listened to with deep interest by a large number of Fellows at a meeting at which such distinguished gynæcologists as Professor Sânger, Dr. Theodore Landau, Dr. Howard Kelly, Professors Laphorn Smith and Gardner, Professor Jacobs and others, were present. Finally, you have had published 645 pages composed of Transactions of the Society, original communications, records of clinical cases, reviews, and summaries of contemporaneous gynæcological work and research in the *Journal of the Society*.

I think we may summarise, as a few of the more solid acquisitions in gynæcology of the past year, the following:— There has been a clearer differentiation of the cases in which vaginal fixation, ventro-fixation, or shortening and fixation of the round ligaments (Alexander's operation) should be performed. The last, it must be acknowledged,



is every day gaining additional ground on the Continent, both in France and Germany.

The most important contribution to this question made during the year 1898 has been that by Dr. Doléris, of Paris, who has published the analysis of ninety cases of treatment of retroversion of the uterus by shortening of the round ligaments by the inguinal method. In four instances laparotomy was also performed for affections of the adnexa, and the round ligaments were fixed in the abdominal wound. In the ninety cases there were two deaths, but these ninety only made portion of a series of four hundred operations, and one of the two was attributed to iodoform intoxication, the other occurred in a neuropathic hysterical woman in whom the autopsy showed that strangulation of the colon in the neighbourhood of the canal of Winslow existed, there being no peritonitis. In twelve cases there were temporary vesical troubles; iodoform erythema occurred in a few, phlegmasia dolens in one. The particulars of seven cases he records, in which the results were not satisfactory, but these seven had associated with the failure, pregnancies, the shortening of one ligament alone, a mode of operating which he had resorted to thirteen times in cases of moderate retroversion. In only two cases was there complete failure. Such testimony as this to our distinguished Fellow's operation is one that he may well be proud of.

There has been a more frequent resort to subcutaneous injections of artificial serum in cases of collapse during operation, or continued tendency to it after. The value of this treatment in cases of collapse in tubal pregnancy should be remembered. Further researches tend to prove that deciduoma malignum is a maternal endothelium, developing either during pregnancy or immediately after labour, and that it is characterised by metastasis. The substitution (after curettage) of amputation of the diseased portion of the cervix (after Martin's method), for repeated and doubtful cauterisations is a substantial gain. The determination of the best

method of closure of the abdomen by the triple suture, and the importance of the isolated fascial suture, with careful adaptation of the cut edges of the fascia, so as to secure primary union in the prevention of hernia, is satisfactory.

The circumstances and local conditions which determine the surgeon to perform laparotomy, or posterior vaginal cœliotomy in the treatment of extra uterine pregnancy, have been most clearly laid down during the past year. The indications for drainage in the abdominal operation, and the necessity for efficacious drainage in both instances, with a large rubber tube of a T shape in the case of a vaginal operation, have been emphasised. After the paper I have referred to, by our late President, Mr. Mayo Robson, on extra-uterine pregnancy, perhaps the two most important contributions of the year to this subject have been those of Mr. John Taylor, who chose it as his subject for the Ingleby Lectures, which have appeared in full in our Journal, and the papers by Professor Bouilly, with an analysis of fifty personal observations, contributed to the journal, *La Gynécologie*. It is noteworthy that if we take the entire number of cases recorded by these three authorities, under all circumstances, propitious or otherwise, making a total of one hundred and ten, there have been but six deaths—surely a splendid triumph for our art! Of these six deaths, it is noteworthy that three occurred where the abdomen was full of blood, the patients dying from embolism and the consequences of collapse; a fourth died of septicæmia, the result of foetal decomposition, and two others from septic peritonitis, the consequence, apparently, of the *débris* of coagula, which became septic. Four of these deaths occurred in the fifty cases reported by Professor Bouilly, and two in the sixty cases recorded by Mr. Mayo Robson and Mr. John Taylor.

Doyen, following up his new method of performing abdominal hysterectomy, securing hæmostasis and the control of the broad ligaments without the aid of clamps, brought before the Surgical Congress of Berlin the use of his

powerful lever forceps in vaginal hysterectomy, by means of which the cellular tunic of the arteries is united under a pressure of from 400 to 1,200 kilogrammes. This instrument, firmly closed for thirty seconds on each broad ligament, allows the operator to cut between it and the uterus, after which the forceps can be removed without any risk of hæmorrhage. The fundus of the uterus being drawn down, the attachments of the adnexa and the pedicles of the ovaries are treated in the same manner, only a few fine ligatures being used to check the venous hæmorrhage. Doyen states that in a great number of laparotomies, and sixty vaginal hysterectomies, he has used this instrument, and has never had a case of secondary hæmorrhage. By the kindness of Dr. Doyen I show you the appliance (see plate).<sup>1</sup>

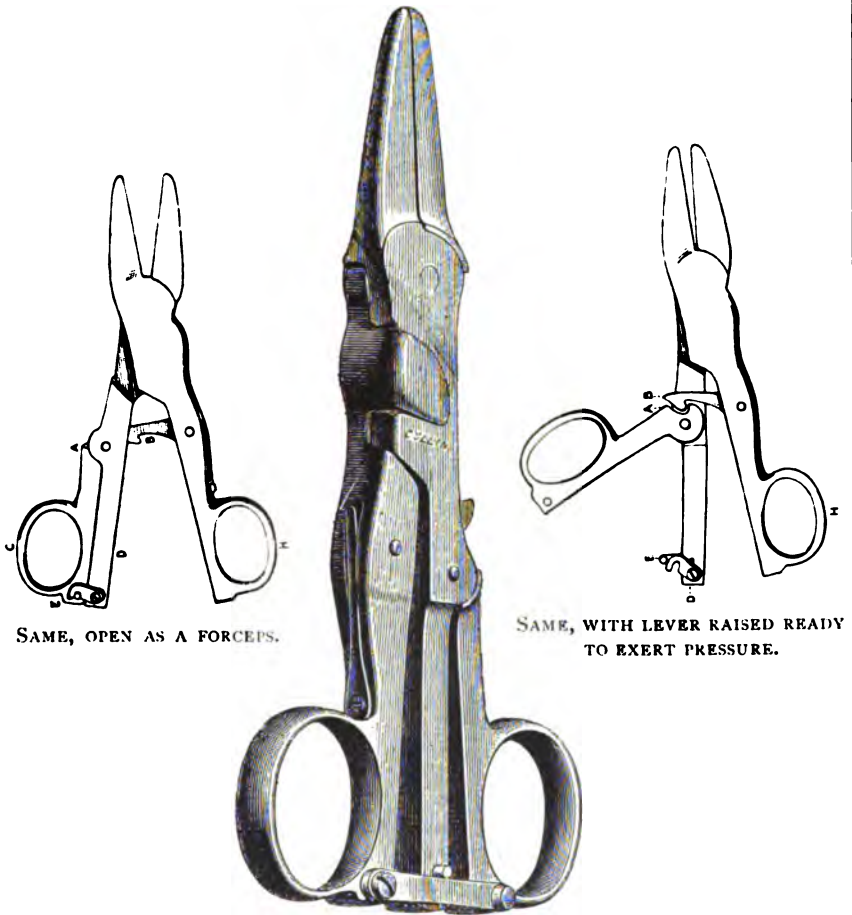
Such, gentlemen, are a few of the lines on which advance in our department has progressed during the past year. They are but a small proportion of the suggestions and successes recorded by a legion of distinguished gynæcologists working in all countries.

May I now state how I have personally been influenced by my own experience during the same period. This may well include the impressions exerted upon me by a month's visit to the Klinik of Professor Schauta in the Krankenhaus in Vienna, and by some private operations by him at the magnificent and thoroughly equipped sanatorium of Dr. Löwe.

Firstly, I may venture a few remarks on the preparation of the patient, and some aseptic details generally. I may premise that I am more than ever convinced of the absolute need for the strictest observation of all the minute details of aseptic surgery. This term of course embraces such antiseptic aids as are essential and indispensable in the

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<sup>1</sup> See *Revue de Therapeutique* (December 1 and 15, 1898) and *Revue de Gynécologie et de Chirurgie Abdominale* (October 10, 1898), for full description and mode of application of the instrument.



SAME, OPEN AS A FORCEPS.

SAME, WITH LEVER RAISED READY TO EXERT PRESSURE.

HÆMOSTATIC LEVER CLAMP-FORCEPS OF DOYEN, FOR GRADUATED PRESSURE.

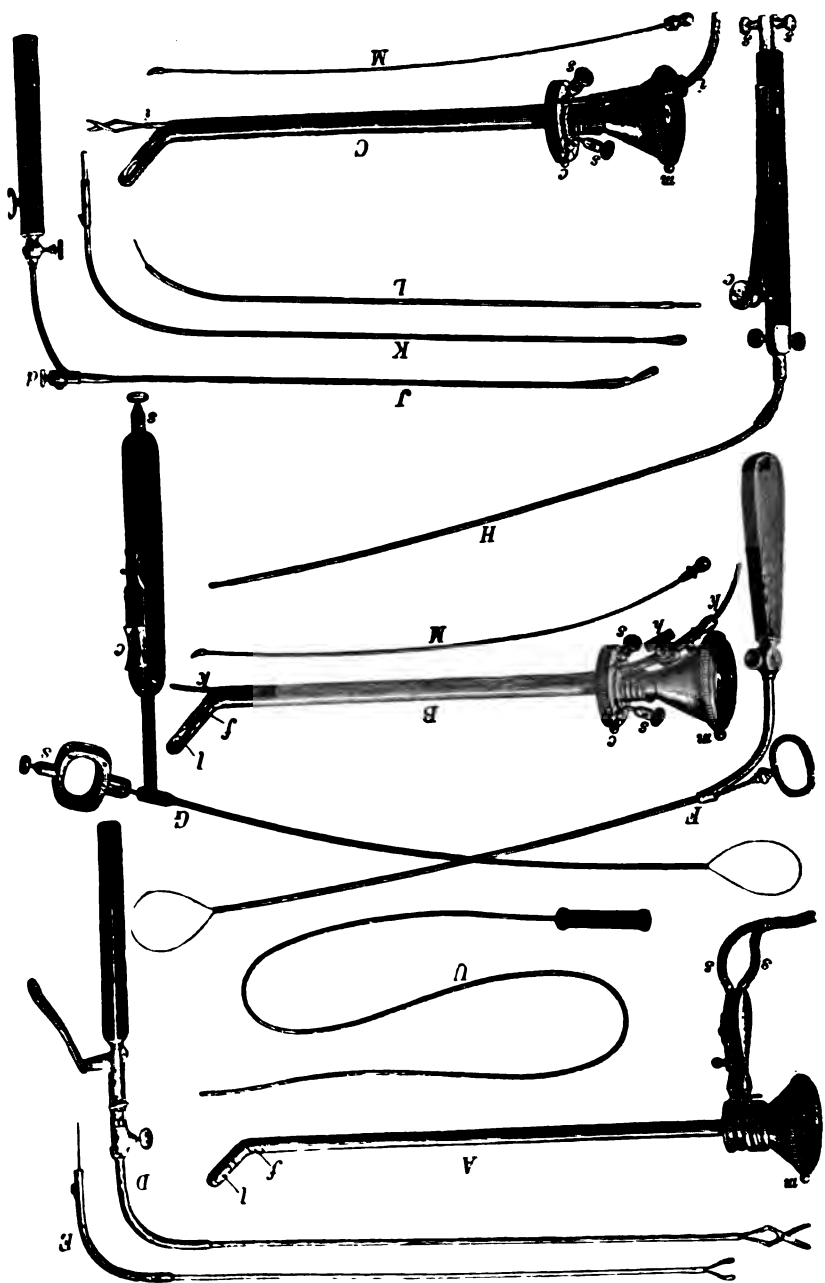
A—Toothed end of lever for catching in notch of the bar B.

The *crochet* E having been freed by the thumb, the lever is raised, and this latter is now ready for the pressure action exerted by bringing it down and closing the teeth of the blades on the tissue.

B—Rigid notched bar on which the lever C A makes its *point d'appui*.

E—Small *crochet* for fixing C A to D.

C—Thumb ring.



KOLLISSCHER'S DIAGNOSTIC (A) AND OPERATIVE CYSTOSCOPE (B & C).

Showing the various lever forceps (E), scissors (D), sounds, knives, galvano-caustic (G) and cold snares (F), curettes (J K) and the ureteral catheter (U), which are passed through the cystoscope for operative procedures in the bladder.

carrying out of asepsis. I have grown to be more searching in my personal precautions, more exacting in the stringent regulations I impose on all who assist me in an operation. I have realised that perfection in the methods can only be obtained by the closest criticism of one's own personal precautionary measures, and the application of the same stringent rules to others. Allow me to cite a few common sources of danger. Final preparation of the arms and hands before the ordinary wearing apparel is covered by a clean overall; incomplete disinfection of the arms well above the elbows; the presence of finger nails; the short time spent over the sterilisation of the patient's abdomen, and particularly the umbilical depression; the preparation of the vagina. Let me, in consequence of a recent discussion at this Society, make a few observations on this simple matter. The patient is brought into the usual hysterectomy position, well to the edge of the table. The hair of the entire genitals has been previously shaved off. The abdomen and the flexures of the groins have been sterilised; the fingers, with some sponge material well soaked, are now introduced into the vaginal canal, which is subjected to a good lather, and, the perinæum being well depressed, this process is repeated several times, while the nurse, standing at the side, keeps up a stream of sterilised water from a douche and pipette on the parts from time to time. Finally, the entire vagina is subjected to a douche of 1 in 3,000 of mercuric perchloride. It is important to secure the thorough sterilisation of the external parts before the vagina is thus attacked. For sponging and compression with sterilised gauze and tampons, I have abandoned the use of any holder save an extremely light and long clamp forceps, which can be rapidly opened and closed on the tampons, and these latter, with the sponges, I have drawn out at the time and cut in the manner you see from tin boxes similar to those used for hairdressers' wool, according as I require them, in three sizes. These boxes are thoroughly disinfected before operation, and the sterilised bandages, unfolded, are

then placed in them. Sterilised iodoform gauze, unrolled straight from the bandage, for tamponning the vagina<sup>1</sup> is similarly used. It may appear unnecessary to even hint at a precaution which everyone is supposed to take with regard to catheterisation of the bladder after operation, when such a step is necessary. Still, it is remarkable how much laxity still appertains in this matter. Sterilised glass catheters should be kept in perchloride solution, and two be used for each patient, one to be sterilised and kept ready to replace the other when required. Many a case of cystitis would be avoided if this precaution were taken, and early and gentle washing out of the bladder practised when the condition of the urine indicated this step.

We are constantly hearing of the importance of rapidity of operation, both abdominal and vaginal. Personally, if there be one thing more than another that I am convinced of, it is this, that it is perfection of detail, and not rapidity of execution, that all, and especially young operators, should aim at. Doubtless there are parts of every operation which should be done as expeditiously as is possible, consistently with accuracy and neatness, and every appliance which helps us in this direction is to be welcomed. In this respect, possibly as much depends upon the assistant who supervises the instruments as upon the operator, but I am certain that on the cautious protection of bowel throughout an operation, on the perfect adaptation of peritoneal surfaces and edges, on the complete and certain stasis by ligature of every bleeding vessel and point, no matter how fine, on the cleanliness of exposed parts and surfaces before final closure of the wound, the safety and ultimate perfect recovery of the woman depend, rather than upon rapidity of manipulation on the part of an operator.

I have recently operated under the following conditions, which I shall but briefly enumerate, as I hope to refer to the cases on a future occasion. A woman was confined

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<sup>1</sup> All such sterilised bandages can now be had in hermetically sealed boxes ready for use.

five weeks before I saw her in consultation. The delivery was followed within forty-eight hours by an elevation of temperature, and it was noticed that the abdomen was swollen, and appeared to contain fluid. The temperature remained erratic, and varying in a range between 102° and 105° until I saw her, when she was undoubtedly very ill. I confirmed the view that we had to deal with a fairly large ovarian cyst which had probably suppurated, and that immediate operation was called for. Accordingly, within forty-eight hours I operated, Dr. Allen, of Stanmore, assisting me. The cyst wall was greatly thickened, closely adherent to the entire parietal peritoneum, which had literally to be peeled off at both sides, after the cyst had been tapped and syphoned of pus. Most difficult was the approach to a very broad pedicle, adhesions having been formed between the rectum at the left side, and the sac and an elongated and greatly enlarged Fallopian tube. The pedicle, however, was secured in three portions, and then came the most difficult part of the operation. The sac was firmly adherent posteriorly all over its surface to the bowel; the colon and meso-colon were plastered to it above, with the omentum, requiring the greatest care in separation, and causing considerable difficulty in the arrest of bleeding. However, finally the sac was removed in its entirety, all bleeding was arrested, the abdominal and pelvic cavities were left perfectly clean, and an operation, which lasted two hours and a half, was completed. The anæsthetic was ether; the patient suffered from no shock, and has made a good recovery. The bowel was protected all through as carefully as possible by small napkins of flannellette wrung out of warm sterilised water.

Quite recently I had an abdominal hysterectomy for a medium-sized fibroma, in which the left broad ligament was invaded by the growth. The patient was exceptionally fat, and though the delivery of the tumour was rapid, I met with extreme difficulty in carrying out hæmostasis, which was, however, in the end most completely



secured, though the operation occupied a period of over two hours. There was no shock, and there was a rapid recovery. I believe that if there be shock, directly resulting from an operation conducted under profound anæsthesia, it is much more likely to follow upon rough manipulation, injury to vital parts, unnecessary dragging and possible laceration of sensitive structures, than upon a necessarily increased duration of the operation. More recently still I operated by vaginal hysterectomy on a case of old and extreme procidentia, in which the bladder contained in the tumour had to be freed from firm adhesions, which reached to within half an inch of the margin of the os uteri. There was a large retroverted uterus. The operation was very prolonged, and there was subsequent shock; but here haste would have been disastrous—in all probability involving me in trouble with the bladder or ureters.

As to the material which I use for ligatures and sutures, I have had the most complete satisfaction for the last three years in all cases in which I have used it, with gut prepared after the method adopted by Martin of Berlin. Silk I now sterilise by Howard Kelly's method. This gut is perfectly pliable, is strong enough for any purpose, and has no liability to slip. I adhere with perfect confidence to the triple suture for closure of the abdominal wound, fine silk for the peritoneum, stronger for the well-adapted muscle and fascia, and silk-worm gut for the skin.

Hitherto I have had but one solitary experience of ventral hernia. This occurred in a patient mentally affected and who twice did all in her power to force open the abdominal wound, both before and after the sutures were removed. When I last saw her the protrusion was quite cured, after a dissection out of the entire cicatrix and re-adjustment of the layers.

If I presume to say what my personal feeling is with regard to a few disputed points connected with operative gynaecology, I do so from no egotistical desire to parade

my own views. I may alter my present convictions, but those which I now feel are the result, not only of my own experience, but the work which I have seen done by such advocates of different methods as Doyen, Hartmann, the Landaus, Olshausen and Winter, Martin, Schauta, and others. In all cases where there is doubt as to the feasibility of removal of the adnexa through adhesions, tumours, or collections of pus, by the vagina, laparotomy is the safest and most expeditious mode of operation. The same rule applies to myomata of a certain size, and to myoma complicating cancer of the uterus. Laparotomy still remains the safest and most classical method of dealing with ovarian cystoma. In small adnexal tumours, colpotomy, anterior or posterior, according to their situation, is the most direct, as well as the safest means of operative diagnosis. For all cases of small adnexal tumours, vaginal cœliotomy is both anatomically and clinically the route which should be followed, and the same remark applies to movable and small myomata and ovarian dermoids. In certain cases in which unexpected or insuperable obstacles are met with in the vaginal method, resort should be had to the combined operation. Operation by ligature is the most satisfactory, as it is the safest method in vaginal hysterectomy. While intra-peritoneal hysterectomy, leaving the cervical stump, and carefully uniting the severed peritoneum, is in certain cases an admirable operation, it is not as complete nor as classical a step as total hysterectomy. This latter operation should be completed by careful adaptation of the peritoneal flaps, covering of the ovaries with the peritoneum, and shutting out of the vaginal canal by suturing the peritoneum anteriorly and posteriorly to the cut vaginal edges, followed by their adaptation. Only in exceptional cases, such as those complicated by adnexal tumours with fluid contents, need vaginal drainage be resorted to. The classical operation for a large double pyo-salpinx is laparotomy, with ablation of the diseased sacs, and total hysterectomy, completed, as I have just said, by vaginal drainage by iodoform gauze.

A few words descriptive of the work I saw in Professor Schauta's Klinik this year in Vienna may interest the Fellows. Besides various minor operations, plastic and other, there were twelve vaginal hyster-o-ophorectomies, one for myoma with adnexal tumour, one for double pyosalpinx, six for various adnexal tumours, one for tubal gestation and hæmatocele, two for malignant conditions of the endometrium, one for chronic metritis with dermoid tumour of the ovary, three operations for abdominal total hysterectomy, two for simple myoma, and one for myoma and malignant disease; two operations of abdominal salpingo-o-ophorectomy, both for tubal gestation, with rupture and hæmatocele; two ovariectomies, one abdominal, the other vaginal, both for cystoma, and one abandoned laparotomy for tumour of the adnexa and peritoneal adhesions.

I followed for several days the course of all these cases. Without exception, they all did well, and I have since heard from Dr. Schmit the final result, which has been recovery in every instance. One of the cases of abdominal total hysterectomy was interesting, as occurring in a patient aged 73, in whom the myoma was complicated with malignant disease of the uterus. In another, bi-lateral pyosalpinx occurred as a complication of hæmatocele, the consequence of an extra-uterine foetation. Here the fimbriæ were spread out in characteristic fashion over the interior of the sac. In a third case, an extra-uterine foetation had been operated on two years previously, and a portion of the adnexa had been left. The operation was most difficult, in consequence of firm and extensive adhesions. It will be noticed that of twenty major operations, thirteen were performed *per vaginam*, and Professor Schauta is emphatic as to his preference for this route over the abdominal one whenever it is feasible to adopt it. It is more difficult, he says, but it is the most natural and the safest for the patient. I saw him remove a fair-sized ovarian cyst by the vagina, performing anterior colpotomy,

tapping the cyst, withdrawing the sac, subsequently stitching the parietal peritoneum to the uterine peritoneum, and the vaginal wall to the uterus. One case of large bi-lateral pyo-salpinx was operated on by posterior colpotomy, the coeliotomy being rendered extremely difficult through the adhesions. The time occupied in performing the vaginal hysterectomy varied. One I saw completed in about twenty minutes, while the more difficult ones occupied over an hour, and on one or two occasions an hour and a half, and even more. [The anæsthetic employed is a mixture of chloroform 1 part, æther petrolei 1 part, æther sulph. 2 parts.] Professor Schauta uses no clamps. Having made the usual incision, he opens the anterior peritoneum, ligatures the uterine vessels at either side, and frees the cervix completely, sometimes dividing it, or occasionally removing it altogether. The adnexal vessels are next ligatured at one side, and if the adnexa be removed they are brought through the posterior opening. This is repeated at the other side. Occasionally, if there be difficulty, the fundus is divided so as to permit of either half being grasped, thus allowing of greater freedom of manipulation, as well as increase of room. Silk is the material used altogether, both for ligature and suture. I should mention that as soon as the peritoneum has been opened, its edge is carefully stitched to the vaginal wall in front. Subsequently, the posterior section is treated in a similar manner. A roll of sterilised iodoform gauze of some twenty to twenty-four inches is passed up through the peritoneal opening, and tied with a string to distinguish it before it is severed, and then the vagina is loosely packed with more iodoform gauze. The vaginal sutures are left long, and are removed in about three weeks. This is very easily done. The internal strip of gauze is not removed for eight or ten days. Only on one occasion, after any of these vaginal operations, did I see a clamp remain for security's sake, in a difficult case of hæmostasis. Abdominal hysterectomy is not performed by Doyen's method. The

tumour is delivered, severed and freed by ligature and section at either side from above down. The vagina is then opened, and the cervix is freed ; most accurate adaptation of all peritoneal edges is obtained, cut and exposed surfaces of the adnexa are covered carefully, iodoform is passed from above down into the vagina, and the peritoneum, with the vaginal opening, is closed.

If there be any associated purulent condition of the adnexa an iodoform drain is pushed through into the vagina as usual. Speaking generally of his operations, I may say that they are performed under the strictest aseptic precautions ; that there is no evidence of haste, but from first to last the most cautious and deliberate manipulation to secure the most complete hæmostasis and perfect cleanliness of all the parts exposed during operation. The toilette of the abdomen is secured by triple suture, and the patient is laid on a portable couch, on which is spread ready the waterproof sheeting, an outer swathe and an inner one of domette to make the tail bandage. Thus she is dressed with the least disturbance before being rolled into the ward. I have here a few appliances of Professor Schauta's, which are interesting. His needle holder for vaginal hysterectomy, curved, as you see, in the handle, which makes it more convenient than the straight instrument for carrying the needle laterally, and his ligature tightener, which enables the surgeon to tighten effectually a ligature placed on a deep-seated or inaccessible vessel. As a rule he uses Deschamp's needles for carrying the lateral ligatures, but for the control of special vessels and sutures he employs this holder.

I would wish, had there been time at my disposal, to say a word of the arrangements at the magnificent sanatoria of Löwe and Furch. In the former especially, the suites of operating theatres, with their adjacent rooms for anæsthesiation and washing purposes, as well as dressing-rooms for the surgeons and assistants, make one envious of the splendid facilities which a Vienna surgeon has for operating

in private. No conceivable want is here left unfulfilled, and under an able directorate and staff, the patients are secured the very best attention.

Gentlemen, may I conclude this very imperfect summary of some of the lessons learned during the past year, and the reflections they have given rise to, by the expression of the hope that during our debates and discussions throughout the coming Session, the tone and character of our proceedings may be stamped by the recognition of our high aims and aspirations. A Society, like an individual, to be accounted worthy must be incited by ambition, and that is a poor ambition which sits down to follow afar off the lead of others who struggle in the same direction. Gynæcology, doubtless, is one of the younger handmaidens of medicine, yet so rapid has been her growth that she has outstripped in the importance of her discoveries and her art many of her older sisters in the race of advance. Let it be our justifiable boast that in our Transactions will be found work that entitles us to a foremost place amongst the many medical and scientific Societies labouring ever unselfishly in the cause of progress and humanity.

Dr. R. D. PUREFOY proposed that the best thanks of the Society be given to the President for his interesting address, and that he be requested to allow it to be printed in the Society's Transactions. The President had dealt exhaustively, clearly, and convincingly with his subject.

Dr. CLEMENT GODSON seconded the motion. He said that the address would appear in the Transactions, not simply as a matter of compliment, but on the ground of intrinsic merit. He was very gratified to learn that Dr. Macnaughton-Jones had been elected for a second year; he felt it to be a compliment to himself, since he was hitherto the only one who had been honoured by two years in the chair. He felt sure that they would find Dr. Macnaughton-Jones' second year as successful as the first.

The motion was carried with acclamation.

The PRESIDENT briefly acknowledged the compliment.

The meeting being terminated, a *conversazione* followed, at the kind invitation of the President. Mr. Mel B. Spurr, of the Egyptian Hall, delighted the large audience with some of his characteristic recitations and musical sketches ; whilst a selection of songs and duets by the Misses and Mr. Isidor de Solla was highly appreciated.

The President exhibited some new and interesting gynæcological instruments and appliances.

Refreshments were served in the Council Room. And so with an interesting meeting and social intercourse the Session of 1899 was very successfully inaugurated.

ORIGINAL COMMUNICATIONS.

ON VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE  
OF THE UTERUS, WITH ONE HUNDRED AND SEVEN  
CASES.

BY FREDERIC BOWREMAN JESSETT, F.R.C.S.

*Surgeon to the Cancer Hospital, Brompton, and the Gordon Hospital  
for Fistula.*

IN submitting to the notice of the profession the result of seven years' operations of vaginal hysterectomy for cancer of the uterus, I venture to hope that the results obtained may be such as to encourage other surgeons to bring forward their experience in this operation, and also to impress upon practitioners in general the great importance of forming an early diagnosis, as there is no disease from which women suffer that is to be compared in its disastrous consequences with that of carcinoma of the uterus, and yet how rarely is the disease recognised in its early stage, and, indeed, in the earlier stage of the disease the difficulties of diagnosing for certain, whether we have to deal with a case of malignant disease or not, are very great.

In the compass of this paper it would be impossible to go into all the details of accurate diagnosis; but I would venture to impress upon all who may be consulted by women, especially about the menopause, suffering from vaginal discharge, hæmorrhage, or pain, the absolute necessity of insisting upon making a thorough vaginal examination.

If this were always carried out, many cases would be



detected sufficiently early to enable the surgeon to operate for the removal of the diseased organ, and often the patient may by this means be freed from the disease, as in my opinion malignant disease of the uterus is in the first instance a purely local affection, and it is not until it has advanced and invaded the cellular tissues around, that the lymphatic system is infected.

The danger of the operation is comparatively small, as will be seen by the list of cases on which I have operated and which is appended; by it you will see that the mortality is less than 8 per cent., and if only the very favourable cases were operated on the mortality may be almost reduced to *nil*.

The question of operation is an important one, *i.e.*, to differentiate between those cases which are suitable for operation from those which are not. Now it has been my practice to be guided chiefly by the mobility of the uterus; if it is freely movable, no matter if the vaginal walls are somewhat encroached upon or not, I advise an operation. But if the uterus is fixed, or the broad ligaments much invaded, then I consider operative procedure should be negatived.

This practice is guided pretty much on the same lines as cancer of the tongue. If the tongue is the seat of the disease, and it is confined to the tongue itself, what surgeon would refuse to remove the organ, notwithstanding that the glands in the neck were affected; and further many surgeons would advise operation even if the floor of the mouth is involved, as it is a well-authenticated fact that after removal of the tongue the disease rarely returns in the stump, although recurrence may and often does take place in the sub-maxillary and cervical glands.

One reason then for operating in these cases is, that by doing so the patient is relieved of a foul-smelling and excessively painful organ, and although life may not be saved, yet it is undoubtedly prolonged and the patients are spared the agonising pain of the local disease for the

remainder of their life. I contend that the same rule that guides the surgeon in the treatment of cancer of the tongue should hold good in cancer of the uterus.

From examination of a large number of *post-mortem* cases of cancer of the uterus, I am convinced the iliac glands are not affected until much later in the disease than is generally supposed, and I am pretty well sure that these glands are not affected so long as the disease is limited to the uterine tissue proper.

As to the different methods of performing the operation, surgeons differ somewhat, some using the ligature to secure the broad ligaments, while others clamp them with pressure forceps. Personally, I nearly always adopt the ligature, but the results of the operation by either method are much the same. I prefer the ligature, as the patient suffers less pain afterwards, and I do not think there is so much fear of sloughing as after the use of the forceps. In some cases also by the latter method dangerous hæmorrhage has occurred on removal of the forceps. This I have never known follow the ligature.

The *technique* of the operation varies very slightly whether the forceps or ligature are used ; the chief points appear to be the opening freely the peritoneum in Douglas' pouch and the anterior *cul-de-sac*, securing the uterine arteries on either side, and then by antiverting or retroverting the fundus to secure the ovarian arteries and remove the organ.

The final step is of the utmost importance I consider ; namely, the catching the peritoneum covering the bladder and that covering the rectum and pulling it well down so that when the vagina is packed the two opposing coverings of peritoneum are brought into accurate apposition, thus cutting off the peritoneal cavity from the vagina and wound.

The after treatment also is to be guided by complete rest, and the dressing in the vagina should not be disturbed for at least four days, so as to give time for the peritoneum to become firmly agglutinated and healed.

The bowels should be opened on the second day by a good brisk purge of calomel or some saline aperient, and an enema.

The shock after the operation is very slight, and indeed, in some prolonged cases, such as those in which perhaps fibroids, ovarian cysts, or dilated tubes are associated with the disease, it is extraordinary what little shock there is. I had the privilege a few weeks ago of seeing Professor Doyen perform vaginal hysterectomy. It was a case of suspected pyo-salpinx. There was nothing particular in the operation, only his method of controlling the hæmorrhage from the uterine vessels by compression with a large heavy pair of forceps, by which he exercised a pressure of 400 lbs., thus so crushing the arteries that hæmorrhage from them was stopped. He adopts a method of cutting open the anterior wall of the uterus when pulling down the fundus. I hardly think, however, this method would be of much avail if interstitial fibroids existed, as they so often do; and in an ordinary case in which the uterus can readily be drawn down, as the case I witnessed, I was not impressed that the cutting open of the uterus at all facilitated the operation. In deciding then whether I would perform vaginal hysterectomy or not in any given case I am guided by the following rules, viz. :—

(1) If on examination of a patient suffering with a discharge from the uterine cavity in a woman at or past the menopause, which discharge is coloured and offensive, and the introduction of the sound causes bleeding, I should feel pretty certain I had to deal with a case of carcinoma of the body of the uterus and should advise operation. Should any doubt, however, exist, I would dilate the cervical canal and curette the cavity and have the *débris* examined microscopically. If the report of the pathologist be unfavourable, at once urge operative measures for the removal of the entire organ.

(2) If the disease has commenced in the cervical canal or external os, even if the vagina walls are somewhat in-

vaded, so long as the uterus itself is not fixed, or the broad ligament invaded, I should not hesitate to advise operation.

Even in advanced cases so long as the uterus is movable I am convinced that much relief may be afforded and life prolonged by vaginal hysterectomy. To my mind the surgeon who will limit this operation only to those cases in which he can pull the uterus down through the vulva is not doing his best for his patient. One might just as reasonably argue that because a carcinomatous breast is somewhat fixed and the axillary glands affected, that the surgeon should not remove it. What surgeon would hesitate to operate in such a case?

To the present time I have performed 107 vaginal hysterectomies for cancer of the uterus; 9 died from the operation, viz.: 3 from shock, 2 from intestinal obstruction and 4 from peritonitis.

Of the 107 cases before you:—

4 were operated on in 1892				
17	"	"	"	1893
22	"	"	"	1894
16	"	"	"	1895
18	"	"	"	1896
18	"	"	"	1897
12	"	"	"	1898

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Total, 107

Of the 4 cases operated on in 1892, 1 is known to be well now; 1 died within the year from recurrence; 1 had early recurrence, and 1 was lost sight of.

Of the 17 cases operated on in 1893, 1 died from septic peritonitis; 6 had recurrence and died within a year; of these 1 died in three months from secondary growth in the pylorus; 1 died nine months after operation from secondary growth in the intestines; there was no local recurrence in either case; 3 cases have been lost sight of, but were well twelve months after the operation, the

remaining 5 were free from recurrence when last seen two and three years after operation.

Of the 22 cases operated on in 1894, 5 had early recurrence ; 3 died from operation, viz. : 1 from shock, 1 from intestinal obstruction, and 1 from peritonitis ; 1 case died twelve months after from other causes, no local recurrence ; 4 were lost sight of ; 3 were well when last seen, nine to fifteen months after operation, and presumably are well now. The remaining 6 were well after two years, and as far as is known have had no recurrence.

Of the 16 cases operated on in 1895, 5 had early recurrence, 1 within a year, 2 within two years, and 1 in two years and a half ; 5 were lost sight of. The remainder were well when last seen ; of these 4 have been seen or reported on quite recently.

Of the 18 cases operated on in 1896, 2 died of septic peritonitis, 4 had early recurrence ; 1 had recurrence within the year, 1 died within the year from secondary glandular affection, no local recurrence. Two were lost sight of after leaving hospital ; the remainder were free from recurrence when last seen or heard of. Four of these I have heard are free from recurrence at present time.

Of the 18 cases operated on in 1897, 2 died, 1 from intestinal obstruction, and 1 from peritonitis. In 3 there was early recurrence ; 1 had secondary deposits in the abdomen ; 2 were lost sight of and the remainder were free from recurrence when last seen quite recently.

Of the 12 cases operated on in 1898, 1 died ; this was a case of combined abdominal and vaginal hysterectomy, the carcinomatous uterus being also the seat of several myomata ; in 1 case there was immediate recurrence, in 2 the disease recurred quite early, and the remainder, although free from recurrence at present, it is too early to make any comment on.

Two of the total number of cases were complicated by the presence of ovarian cysts, which were tapped through the vagina and removed. Both cases recovered. In 5

cases myomata were present, necessitating in four instances the performance of the combined abdominal and vaginal operation. Two of these died from shock. Myomata of smaller size were present in several other cases ; the diseased organ was able to be removed *per vaginam* in these.

The seat of disease was limited to the body of the uterus in 13 cases. In the remainder, the disease commenced in the cervical canal, or external os ; in many of these, the mucous membrane of the vagina was more or less invaded.

No.	Year	Name	Age	Con- dition	Chil- dren	Disease	Remarks
1	1892	A. C. ...	37	M.	0	C. Body...	Free from recurrence.
2	"	M. E. ...	53	M.	6	C. ...	Lost sight of. Well when last seen.
3	"	W. C. S. ...	46	M.	2	C. Body...	No recurrence when last seen.
4	"	L. P. ...	57	M.	2	C. ...	Recurrence in six months.
5	1893	E. B. ...	38	M.	4	C. ...	Recurrence in one year.
6	"	A. K. ...	36	M.	0	C. ...	Recurrence in a few months.
7	"	C. J. E...	42	M.	0	S. Body..	Recurrence. Died in nine months.
8	"	E. S. ...	52	M.	3	S. ...	Well when last seen six months ago.
9	"	H. D. ...	58	M.	6	C. ...	No recurrence.
10	"	S. J. ...	63	S.	0	S. ...	Recurrence. Died in six months.
11	"	E. H. ...	55	M.	2	S. ...	Died. Septic peritonitis.
12	"	H. S. ...	55	M.	3	C. Body...	Secondary deposit in intestines. Died nine months later. No local recurrence.
13	"	H. K. ...	54	M.	8	S. Body...	No recurrence.
14	"	E. A. ...	32	M.	5	C. ...	Recurrence in a few months.
15	"	E. D. ...	57	M.	4	C. ...	Secondary depos. pylorus. Died three months later—two years after operation. No local recurrence.
16	"	M. J. ...	41	M.	2	C. ...	No recurrence.
17	"	C. L. ...	45	M.	0	C. Body...	No recurrence.
18	"	M. J. ...	33	M.	2	S. Body...	No recurrence.
19	"	A. S. ...	47	M.	3	C. ...	Well when last seen.
20	"	A. G. ...	52	M.	1	C. ...	Recurrence within six months.
21	"	K. F. ...	45	M.	0	S. Body...	Free from recurrence.
22	1894	F. S. J....	44	M.	0	C. ...	Free from recurrence when last seen.
23	"	R. L. ...	47	M.	2	C. Body...	Lost sight of.
24	"	E. J. C...	62	S.	0	S. Body...	No local recurrence. Died six months after.
25	"	E. C. ...	44	M.	13	C. ...	No recurrence.
26	"	E. B. ...	31	M.	6	C. Body...	Died. Intestinal obstruction.
27	"	L. M. ...	47	S.	0	C. ...	Rapid recurrence.
28	"	A. M. ...	31	M.	4	C. ...	Recurrence within six months.
29	"	M. S. ...	54	M.	10	C. ...	Free from recurrence.
30	"	F. R. ...	57	M.	3	S. Body...	Free from recurrence.
31	"	H. O. ...	40	M.	5	C. ...	Lost sight of.
32	"	S. L. ...	56	M.	3	C. ...	Free from recurrence when last seen.
33	"	E. P. ...	40	M.	0	C. ...	Free from recurrence two years later.
34	"	A. L. ...	37	M.	2	C. Body...	Farly recurrence.
35	"	A. B. ...	52	M.	7	C. ...	Free from recurrence when last seen.
36	"	E. D. ...	46	M.	3	C. ...	Recurrence in five months.
37	"	E. C. ...	43	M.	1	C. ...	Combined operation. Died shock.
38	"	B. R. ...	40	M.	2	S. Body...	Well when last seen.
39	"	F. S. ...	47	M.	2	C. ...	Died. Peritonitis.
40	"	L. N. ...	68	M.	3	C. ...	Lost sight of.

No.	Year	Name	Age	Con- dition	Child- ren	Disease	Remarks
41	1894	E. S. ...	40	M.	7	C. ...	Rapid recurrence.
42	"	A. L. ...	44	M.	5	C. Body...	Lost sight of.
43	"	E. H. ...	53	M.	0	C. ...	No recurrence when last seen.
44	1895	A. M. P.	43	M.	5	C. ...	Early recurrence.
45	"	M. D. ...	28	...	...	C. ...	Recurrence in one year.
46	"	E. B. ...	50	M.	...	C. ...	Recurrence in very short time.
47	"	E. H. ...	59	M.	...	C. ...	Well when last seen.
48	"	E. C. ...	52	M.	...	C. ...	Free from recurrence at present.
49	"	S. E. ...	39	S.	...	S. ...	Free from recurrence at present time.
50	"	F. M. ...	47	M.	...	C. Body...	Recurrence in eighteen months.
51	"	E. R. ...	44	M.	...	C. ...	Early recurrence.
52	"	S. L. ...	50	M.	3	S. Body...	Quite well when last seen.
53	"	E. S. ...	54	M.	2	C. ...	Recurrence two and a-half years later.
54	"	S. H. ...	57	M.	7	C. ...	Early recurrence.
55	"	H. A. ...	35	M.	5	C. ...	Early recurrence.
56	"	A. W. ...	41	M.	2	C. ...	No recurrence two years after.
57	"	R. B. ...	39	M.	2	C. ...	No recurrence when last seen.
58	"	A. R. ...	50	M.	3	C. ...	Well at present time.
59	"	A. K. ...	47	M.	5	C. ...	Combined abdominal and vaginal. No recurrence.
60	1896	L. H. ...	65	S.	0	S. Body...	Recurrence. Died six months later.
61	"	E. C. ...	60	M.	4	C. ...	Died. Septic peritonitis.
62	"	C. S. ...	55	M.	4	C. ...	Early recurrence.
63	"	M. H. ...	38	M.	2	C. Body...	No recurrence when last seen.
64	"	E. H. ...	43	M.	4	C. ...	Recurrence in twelve months.
65	"	M. W. ...	30	M.	3	C. ...	Lost sight of.
66	"	M. M. ...	44	M.	3	C. ...	No recurrence.
67	"	C. N. ...	57	M.	4	C. ...	Early recurrence.
68	"	F. J. ...	60	M.	11	C. ...	Early recurrence.
69	"	I. D. ...	48	M.	2	C. c. Myoma	Free from recurrence.
70	"	F. S. ...	49	M.	5	C. c. Myoma	Recurrence in glands. No local recurrence.
71	"	A. C. ...	44	M.	2	C. Body...	Well at present time.
72	"	A. G. ...	52	M.	1	C. ...	Well at present time.
73	"	L. R. ...	47	M.	12	C. ...	Early recurrence.
74	"	F. J. ...	44	M.	0	C. ...	Free at present time.
75	"	K. F. ...	45	M.	0	C. c. Myoma	Free when last seen.
76	"	E. B. ...	31	M.	6	C. ...	Died. Septic peritonitis.
77	"	L. M. ...	47	S.	...	C. ...	Lost sight of.
78	1897	S. M. ...	54	M.	10	C. ...	Free from recurrence at present.
79	"	E. D. ...	46	M.	8	C. ...	Free from recurrence at present.
80	"	E. S. ...	47	M.	6	C. ...	Died. Intestinal obstruction.
81	"	L. N. ...	68	M.	0	C. ...	No recurrence when seen last.
82	"	E. S. ...	40	M.	6	C. ...	No recurrence when seen last.
83	"	A. T. ...	43	M.	5	C. ...	Early recurrence.



No.	Year	Name	Age	Con- dition	Chil- dren	Disease	Remarks
84	1897	E. H. ...	59	M.	1	C. ...	Free from recurrence.
85	"	S. J. E....	39	M.	2	C. ...	Early recurrence.
86	"	F. M. ...	47	M.	11	C. ...	Secondary deposit in abdo- men.
87	"	R. B. ...	39	M.	3	C. ...	Well when last seen.
88	"	A. W. ...	63	M.	0	C. ...	Free from recurrence at pre- sent.
89	"	J. K. ...	48	M.	0	C. c. Myo- ma	Free from recurrence at pre- sent.
90	"	E. S. ...	47	M.	3	C. c. Myo- ma	Combined abdominal and vaginal. Free from recur- rence. Ventral hernia.
91	"	C. N. ...	43	M.	5	C. ...	<i>Died.</i>
92	"	L. W. ...	50	M.	4	C. ...	No recurrence.
93	"	F. K. ...	67	M.	5	C. ...	No recurrence.
94	"	A. B. ...	44	M.	2	C. ...	Early recurrence.
95	"	C. M. ...	42	M.	9	C. ...	No recurrence at present.
96	1898	S. F. ...	38	S.	...	C. c. Myo- ma	<i>Died.</i> Combined abdominal and vaginal.
97	"	R. H. ...	36	M.	5	C. ...	No recurrence.
98	"	C. R. ...	42	M.	1	C. c. Myo- ma	No recurrence.
99	"	P. B. ...	35	M.	5	C. ...	No recurrence.
100	"	M. L. ...	34	M.	3	C. ...	No recurrence.
101	"	E. G. ...	54	M.	1	C. ...	No recurrence.
102	"	A. P. ...	39	M.	1	C. ...	No recurrence.
103	"	E. R. ...	57	M.	4	C. Body...	No recurrence.
104	"	L. P. ...	38	M.	2	C. ...	No recurrence.
105	"	C. B. ...	35	M.	5	C. ...	No recurrence.
106	"	A. M. ...	56	M.	0	C. ...	Immediate recurrence.
107	"	C. P. ...	57	M.	6	C. ...	Early recurrence.

SALINE IRRIGATION IN ABDOMINAL OPERATIONS.\*

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HOT-WATER irrigation, so frequently practised in abdominal surgery, has not the well-defined history that most improvements in technique possess. In a paper read before the British Gynæcological Society in March, 1887,<sup>1</sup> Mr. Lawson Tait claimed that he had completely developed it in 1876; but Keith professed to have used it ten years earlier. In the subsequent discussion it was asserted that it had been used in the Soho Hospital for Women fifteen years before, while it was also attributed to American surgeons as an innovation due to them. There is little doubt, however, that Mr. Tait was at least the first to formulate methods of using this adjunct to the toilet of the peritoneum, not only as part of the toilet but as a serious part of the operation itself, and it is to his advocacy that we owe its extended use.

Hot-water irrigation is used very largely in abdominal operations; it is used for all sorts of reasons, and for no reason at all—sometimes on intelligible lines, often as a mere useless, reasonless routine. It occurred to me that it would be well to look at a few of the reasons which lead to its use now, and inquire whether it is wise or possible to extend it in some directions and to curtail it in others. I should think it was first used for purposes of lavage, and that it was later on found to be in some degree a hæmostatic. In the latter connection we have a paper by Mr.

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\* Read before the Liverpool Medical Institution, December 15, 1898.

Keetley on "Hot Water as a Hæmostatic in Surgery."<sup>3</sup> It is a scrappy paper, obviously intended to be merely suggestive, and the author refers to cases of recto-vaginal fistula, uterine hæmorrhage, and amputations, but there is no reference to its use in abdominal surgery. Probably it did not occur to the author that water hot enough to be of use as a hæmostatic could be properly borne by the peritoneum. But we will discuss that again. There is a paper on "Peritoneal Irrigation and Drainage,"<sup>3</sup> by Dr. Cordier, but I do not propose to discuss the matter from his point of view—the combination of drainage with irrigation. In a discussion on a joint-paper I read at the Clinical Society in 1890,<sup>4</sup> I expressed the opinion that it was probable the use of irrigation would lessen the need for subsequent drainage. I could not then see, nor have been able to understand since, why drainage was a necessary adjunct to irrigation, though it is only recently that the two have been dissociated as routine treatment. I think it well, therefore, in the limited time at my disposal, to discuss irrigation on its merits as far as possible and leave drainage as a separate matter. I will only say, in passing, that I am inclined to agree with the newer dictum, "When in doubt, don't drain." The presence of a drainage tube is always a source of uneasiness to me. It is an ever open door for sepsis and a cause of weakness in abdominal scars. Let us take in some detail the reasons for irrigation and arguments for and against.

(1) To cleanse the peritoneum after operation. In this connection one can say that it is undoubtedly the best method of cleaning up a dirty peritoneal cavity, washing out blood clots, and reaching holes and corners that are easily overlooked by a sponge, which, while it cleans up definite pockets, cannot so readily cleanse soiled intestines, omentum, and so forth without undue exposure and handling that is not favourable to the integrity of the peritoneal epithelium, and which may cause subsequent trouble from adhesions, peritonitis, and interference with absorption. To irrigate the

abdominal cavity with a copious flow of hot water through a Tait's trocar or rubber tube, providing for free outflow to at once ensure the escape of particles of clot and filth, and prevent improper pressure on the diaphragm and on intra-abdominal viscera, is the best means of ensuring a peritoneal cavity free from materials that would threaten the subsequent progress of the patient to recovery. That a free outlet must be provided is a *sine quâ non*.

The effect of hot water introduced into the peritoneal cavity is very marked. However profoundly a patient may be under the influence of the anæsthetic, one generally notes a sudden rigidity of the abdominal muscles, and more or less straining when anæsthesia is less profound, though the patient had been indifferent to other manipulative measures. I was informed by a former anæsthetist that he always noticed an intermission of the pulse when irrigation was commenced; but I cannot say that observation has been in any way confirmed. There can be no doubt that at first there may be shock; though later the pulse is increased in volume and quality, and that so rapidly that, as I remarked in the discussion referred to, it seemed to practically amount to transfusion. I believe the tendency to shock is lessened by a free outflow provided, and that absorption is little interfered with. When used for lavage only, this question is not one to be considered. The directions given by Tait in the paper quoted are not to be surpassed to-day. He uses his small trocar, attached to a rubber tube whose end is placed in a ewer of blood-warm water, when he wishes to obtain a gentle stream with which to wash out the gelatinous material that escapes from ovarian cysts; and, while passing the tube into all parts of the abdomen that may be covered with this tenacious material, he gently moves the fingers amongst the intestines to promote cleansing. I well remember an early case in which I assisted him, which illustrated the value of the proceeding, as well as that of exploratory operations. It was in a woman from whom he had removed an ovarian

tumour some years before, and who returned with a large fluid abdominal swelling and symptoms that suggested malignancy. An exploratory operation was undertaken, and he found that another large cyst had formed and ruptured, and its thick, tenacious contents were diffused through the abdomen. Irrigation was most successful in clearing everything away, and the woman made an uneventful recovery.

Though the intestines here required a vigorous washing, they were not nearly so roughly handled as if the work had been undertaken with sponges; and we know, too, how disagreeable sponges are to work with in such cases.

For blood clots Tait uses a more rapid stream through his large trocar, the current from which clears out large masses of clot "with amazing rapidity." Finally, the temperature recommended is 103° to 107°, and for arresting hæmorrhagic oozings, he would even use water up to 120° F.

It will be enough at present to say that no better and no worse system of cleansing the peritoneal cavity exists. Its advantages are apparent. We prevent the damage done to the peritoneal covering of intestines, &c., by even the lightest sponging, and the risk of subsequent adhesions arising therefrom. We can guarantee the purity of water more readily than that of sponges after the most anxious cleansing. Time is saved enormously, since we have no need to expose intestines to cold while tediously sponging them with the care necessary to remove all traces of dirt. Irrigation will do this in a fractional part of the time, and while doing so bathes them in a bland, unirritating saline solution, which is of great advantage in maintaining their proper temperature and protecting them from injury during the process. The time saved from sponging may be used for inserting stitches in the abdominal wound, and the operation is completed much sooner than would otherwise be the case. This irrigation of course applies for fluids &c., that are not actually septic, but which may be in themselves irritating or have potentialities of septicity.

Blood-clots, for example, are washed out very speedily, and, if the process is properly carried out, we can see not only that there is no clot left behind, but that no fresh bleeding is occurring. Of course we cannot see this if we adopt a rather common habit of washing fouled sponges inside the abdomen—letting a stream of water play into a peritoneal cavity packed with sponges that are soaked with blood. It is equally common, too, to ignore bleeding in the abdominal incision and to keep up a flow of hot water into the abdomen, because blood trickling inside from the wound, or washed off it by the emerging water, gives the impression of continuing hæmorrhage. But if we provide against these sources of error, lavage is an excellent guide to the efficiency of our hæmostatics.

When we come to pus and septic elements it is quite a different matter. Here the proper, the only safe thing, is sponging with great care an area that has been shut off by sponges from the general peritoneal cavity. To irrigate an abdomen which contains septic matter invites disaster. We wash the material into more or less distant regions and insure infection of a wider area by matter whose dilution possibly makes its distribution easier. Irrigation, as I hope to show, is generally harmless, and probably, except in this last class of cases, valuable; but it cannot be too heartily condemned as the means for removing septic materials. If, however, as in a case I shall mention, we have a septic collection which is leaking into a less confined area and starting general peritonitis, we have the option of flushing out the local collection and the general cavity, though it would probably be wiser to irrigate the first and sponge and drain separated infected areas elsewhere. I do not believe that lavage is of much use in acute diffuse peritonitis; here, as has been recommended by an American surgeon,<sup>5</sup> elaborate sponging of the whole of the affected area, after turning out the intestines, is the only treatment likely to be of service. Though I recorded a case<sup>6</sup> where acute diffuse suppurative peritonitis was relieved

without irrigation or sponging, I have often asked myself if that case were cured because, or in spite of, want of irrigation.

(2) What are we to say of irrigation with hot water as a hæmostatic? I am not so certain that, with temperatures that can be wisely used, it is as reliable as it is assumed to be. What temperature is required as a hæmostatic? Mr. Keetley, in his paper referred to, suggests a temperature of  $117^{\circ}\text{F.}$ , increased in severe cases to one of  $124^{\circ}\text{F.}$  Mr. Tait mentioned  $120^{\circ}$  as being a possible temperature for use within the peritoneal cavity. That is not a very safe temperature. Of course hæmorrhage of a serious nature must be controlled in some way. Water of a lower temperature may not feel particularly hot to a nurse's hand, but it feels hot to mine, and we can see, by the way in which it blanches the muscles in the abdominal wound, that it has an action which must be especially severe on structures like the intestine. I do not think a temperature that can be properly borne by the intestine, say up to  $107^{\circ}\text{F.}$ , is likely to be of much use as a hæmostatic, and higher temperatures will probably damage it. Packing with sponges, after washing away all blood-clots, will prove safer and almost as useful, and we can still go on with our wound-stitching the while pressure is acting. Sponging with an astringent, like an infusion of matico, will also act well. We can, if these fail, choose between gauze-packing or the application of the cautery to points that cannot be ligatured, or use hotter water, confined to the affected area as much as possible, or even pour down a drainage tube a solution of perchloride of iron. Hot water irrigation, however, I am sure, in many cases does not avail, and we lose a good deal of time and the patient much blood while trying the futile temperatures many rely on. The question what to irrigate with is of some importance. Probably saline solution is most acceptable or least harmful to the tissues. If we are using water of a moderate temperature, and simply exchanging the irrigating fluid by absorption,

for blood or plasma leaking from the vessels, normal saline is most desirable till we can discover and make available a genuinely nutritive fluid.

With water moderately hot we always have a shrinking of the patient, and however deep the anæsthesia, increased rigidity of the abdominal walls. We need not argue from this that, because we have got a marked reflex, probably from the effect of hot water on the sympathetic ganglia, any contraction induced in the bleeding vessels is more than transient, that reflex contraction is maintained after the first shock, or that any true hæmostatic action is set up.

Besides the use of irrigation in the instances mentioned, one would naturally resort to it in cases where bile, fæces, urine, tumour contents and similar irritating fluids, had escaped during an operation, and fouled the peritoneum. One cannot pretend to go into the details of such cases, any more than one need discuss before a Society like this methods of irrigating. My object is to arouse discussion on the principle of saline irrigation.

We are confronted after irrigation with the question whether a drain shall or shall not be inserted. As I have already said, I do not think a drain necessary after irrigation except in rare cases. If used for the purpose of cleansing a fouled cavity, and your object has been obtained, why leave a clean, aseptic peritoneum open to the infection of germs from outside? If the water used has been clean, there is not the slightest harm in leaving some behind, even if blood-stained. There will be plenty of blood-stained serum and plasma there very shortly after the operative injury. It will be no worse for being there in company with a little clean water that may not have been absorbed immediately. If used successfully as a hæmostatic, the immediate results are likely to be permanent; if your bleeding is checked, it will remain checked; if not, you would insert a drainage tube in order to keep an oozing surface as dry as possible and stop hæmorrhage. The routine of washing out and draining seems to me without reason and a mischievous



proceeding. I am glad to see the trend of opinion in this direction, as, like all good things in abdominal surgery, drainage has been overdone. The peritoneum is a good servant, and it is our business to find out what it will do for us.

Where there has been septic matter, irrigation, to my mind, does not come in, and I need not discuss the question of drainage here beyond saying that one would feel disposed to drain after *sponging*. We need not keep a bacteriologist to superintend our operations and tell us when to drain or not, and when material is septic or not; the difference is not so difficult to recognise that one need make the absurd fuss in surgery that is being made to-day in medicine. In my limited experience I come to drain less and trust the peritoneum more; and as to irrigation, I use it as an optional part of the toilet of the peritoneum, generally, with a tendency to resort to it frequently as a means of preventing shock, filling vessels emptied by hæmorrhage, preventing subsequent thirst of patients, lessening the tendency to adhesions, and assisting the absorption of effusions consequent on surgical injury.

Let us consider the absorptive capacity of the peritoneum. Like all vital questions, it is complicated in itself, and is made especially so by the introduction of the factor of operative injury. The effect of injury on the peritoneum is shock—shock that we can in a sense measure in the increased specific gravity of the blood, and the results to the circulation consequent on the effusion of a considerable amount of plasma. Whether this plasma or serum is extruded into the peritoneal cavity as free fluid, there is no evidence within my reach to show. But though this is doubtful, what is certain is that fluid is exuded and is lost for the time being to the circulation, either in this way or by distribution within the inter-cellular spaces of the peritoneum and other tissues. This lost plasma means, of course some inspissation of the blood and a more or less serious increase of peripheral resistance in minute vessels caused by

the circulation of blood corpuscles in a less spacious circulatory medium. This resistance, multiplied as it is over an immense area, means shock as we understand it, and that obstruction of the circulation which is translated into an embarrassed pulse, depressed vitality, and other symptoms too familiar to the abdominal surgeon. Thirst is one of these symptoms, and it indicates the urgent need of fluids, till the peritoneum begins to recover itself and re-absorb lost plasma, or till the surgeon has recognised its meaning, apart from mere discomfort, and taken steps to relieve it by the administration of fluids by mouth, rectum, veins, or peritoneum. This exudation must be large. If we consider the great area involved in many abdominal operations; the surfaces from which growths have been peeled, the exposed peritoneum covering intestines and other viscera; the handling to which all have been subjected—the more or less rough sponging, and other manipulations and injuries, by knife, cautery, ligature, &c.—it is not to be wondered at that shock should be considerable, and that the alteration in the specific gravity of the blood should be a fair indication of the extent of shock from which a patient may be suffering.

I have received much assistance in this branch of my subject from Professor Sherrington, whom I have to thank for ready suggestions and references. He records<sup>1</sup> an elaborate and instructive series of experiments that open out great possibilities to the student of abdominal surgery.

The peritoneum, not long ago, was associated with peritonitis and nothing else, in the surgical mind; but to-day it promises to be at least as good a servant as it was a master, and a better understood factor in further advancing the already marvellous success of abdominal surgery. Dr. Sherrington's paper enables us to state some of the conditions under which we are working, and I would briefly refer to his experiments, which were mostly performed on the cat or dog; less frequently on the rabbit. They show, not only the well-known fact that "the fundamental phenomenon of inflammation is the abnormal exudation of intra-

vascular fluid," but the direct estimation of this in the degree of inspissation of the blood, indicated by a raised specific gravity. I shall content myself with a rough illustrative summary of such of the points determined by these experiments as appear to me to bear more directly on the subject under discussion. The paper is too long to fully analyse, and should, indeed, be carefully studied in detail by surgeons.

The injuries inflicted on various animals usually consisted in :—

(A) Immersion of one or more extremities in water at a temperature of 52° C. for five minutes.

(B) The application, for the same length of time, of sponges steeped in '6 per cent. aqueous saline solution, to a knuckle of intestine brought to a small incision in the linea alba, the gut being carefully replaced and the wound closed, the whole operation being performed under strict aseptic precautions.

(C) Mechanical trauma by the ligation of a knuckle of intestine. The blood was examined at least once before operation by the "drop method," and was usually taken from the pinna of the ear. Amongst other results it was found that :—

(a) The specific gravity of the blood was increased, while that of the serum was slightly lowered, or unaltered.

(b) The hæmoglobin content of the unit volume of blood was increased.

(c) The number of chromocytes in the unit volume of blood was increased.

(d) Hæmoglobin in solution appeared in the plasma of the blood, in that of the lymph in the thoracic duct, and in the exudation fluid in the limb.

(e) The rapidity of clotting of the blood was increased, and the lymph clotted well.

I omit other changes described, contenting myself with the quotation that "the circulating blood becomes inspissated in the sense that it loses some of its plasma while its

chromocytes do not escape, or at least not in direct proportion to the loss of plasma."

And this loss of plasma, or apoplasma, of the blood, is not, as we might have expected, equalised by increased entrance of lymph into the circulation, *via* the thoracic duct, &c. This is a fallacy that has hitherto led us to undervalue the importance of irritative exudation. Professor Sherrington shows, too, that the phenomenon is not one of lost time between the escape of fluid from the circulation and its return thereto. This is shown by the continuance of apoplasma for as long a period as sixty hours after operation, the specific gravity of the blood being heightened, while that of the serum (plasma) remained unaffected. The possibility of apoplasma lasting four or five days after a carefully conducted surgical operation is to be borne in mind by practical surgeons; it is to be considered *as gravely as the more urgently felt question of hæmorrhage*, and means taken to combat or prevent it.

What becomes of this exuded plasma in abdominal operations? We have no direct evidence that it lies free in the peritoneal cavity; probably some does, but no experiments that I am acquainted with give any information on this point; it requires further investigation. But since there is sufficient evidence that exudation is considerable, that so much fluid is lost during a time of crisis to the circulation, that peripheral resistance is consequently increased to a more or less serious extent, it is only essential that we recognise these important facts, and wait for further experiment as to the precise destination of the exudate. I leave over, too, the question of marked changes as regards the leucocytes. Though this has, no doubt, important bearings on the bactericidal properties of the peritoneum, it would carry us beyond the time at my disposal. What I would insist upon is that even a simple abdominal incision results in a varying degree of inspissation of the blood, and ask you to consider what means can be adopted to prevent shock in abdominal operations, understanding by the term the direct

results of apoplasmia rather than that profound depression of high nerve-centres that is too often confounded with it.

Here I would urge that hot-water irrigation, or irrigation preferably with hot saline solutions (for plain hot water was recognised by Peaslee<sup>8</sup> long ago to be an irritant) roughly represented by dissolving a good teaspoonful of table salt in a pint of sterilised water, offers an excellent means of minimising shock. The normal saline would be unirritating, less likely to produce the condition we wish to avoid, and more certain to promote the activity of cells whose vital activity so much affects absorption. For absorption is not a merely mechanical process, it is not filtration—nearly all mechanical conditions are against it. The pressure within the vessels, *e.g.*, is higher than that outside, and if anything the proportion of salts in lymph is higher than that of the blood. Absorption must, therefore, be essentially a vital process, depending on the activity of cells lining the capillaries and lymph channels of the peritoneum. Therefore, injury from operation—prolonged exposure to air, bacteria, dust and cold—not only promote exudation, but damage the absorptive agencies which correct the mischief. It is probable that, except under conditions where it is rendered necessary for purposes of lavage, our end would be better attained by pouring into the abdominal cavity one or two pints of normal saline solution at the close of an operation that has been more or less prolonged, than by irrigation. It is apparent that though saline solutions may themselves be irritating, they are more rapidly absorbed than the exuded plasma resulting from operative injury, and would replace this plasma in the circulatory medium with the best results. It is probable, too, that absorption takes place over at least as large a surface as that from which exudation is possible. Though it has been contended by Adler and Meltzer<sup>9</sup> that the “lymph is carried into the circulation more readily and much earlier by way of the lymphatics than directly through the walls of the vessels,”

this need not apply to normal saline irrigating fluids. G. Wegner,<sup>10</sup> whose paper is quoted by Dr. J. G. Clarke<sup>11</sup> in an instructive article, shows that :—

(1) The surface of the peritoneum is equivalent to that of the skin (17,182 square centimètres peritoneum, 17,502 square centimètres skin surface).

(2) It has an enormous absorbing function, taking up in an hour 3 to 8 per cent. of the entire bodily weight.

(3) Under the influence of very toxic or irritant substances, an equal transudation into the peritoneal cavity may take place.

Few dispute the probability that the main, if not the only tract through which solid particles are absorbed is by the lymph channels, and that there is a constant intra-abdominal current towards the diaphragm. And it is acknowledged that absorption is more rapid if the surface is uninjured, though even blood is absorbed, and that very soon, by surfaces actually injured, as has been shown by examination of patients dying a few hours after abdominal operations, though it would have a tendency to become encapsulated, to collect in pockets and be more slowly disintegrated. This proves only what practical surgeons have long been familiar with, and explains the increased tone and volume of the pulse under and after irrigation, results that cannot be altogether due to any stimulation of the sympathetic and consequent improved circulatory tension, or to checking of the exudation already referred to. We have long been familiar, too, with the lessening of post-operative thirst in cases that have been irrigated, or into whose abdomen we have introduced a saline solution; the tongue remains moist and clean, shock is lessened, the patient is more comfortable, and the pulse may be near the normal in rate and volume, or show increased tension. This result may not always be good in cases liable to hæmorrhage, and it may, too, be an expression of some rapid absorption not only of saline fluids, but of exudations which produce a certain degree of sapræmia, or contain chemical or bacterial matters

that are disposed of in the circulation with more apparent energy resulting than from its slower dispersal by the peritoneum. I am convinced, however, that the alteration in the condition of the patient is altogether an improvement. I must reluctantly leave these and other interesting questions in order to discuss the post-operative use of irrigation. This has been recommended by Grieg Smith<sup>12</sup> particularly in cases of peritonitis, as well as where the presence of septic material which could not be entirely removed during operation suggested its use as a continuous cleansing agency. I cannot say that my experience of its use under such conditions has been anything but very limited, or that it has been even so far favourable. I do not think that general peritonitis is much benefited by irrigation, though common sense indicates the frequent cleansing and disinfection of infective areas. The condition in septic peritonitis is so grave, so extensive, so utterly impossible to treat adequately with the means at present at our command, that treatment is usually of no avail. Diffuse septic peritonitis can only be properly treated, in my opinion, by turning out the intestines and cleansing the whole peritoneal cavity elaborately and systematically with sponges. How often such an operation is possible I need not say. Nor is irrigation, to my mind, of much value in such cases, or any other method of treatment, unless accompanied by the formation of an artificial anus and evacuation of the paralysed gut. We have been too much concerned with the condition of things outside the bowel to give due importance to the still graver condition within it—a stagnant sewer, swarming with bacteria and their products of the most deadly nature. If one must do one thing only, I would say open this gut; and the combination of this with careful external cleansing should offer a more hopeful outlook for such cases than they have hitherto enjoyed. But irrigation may be invaluable in commencing peritonitis and in pseudo-ileus, the symptoms of which often run into those of peritonitis. In many of these cases, adhesion of intestines to other portions of gut, or to

the surfaces from which we have peeled adherent growths, to pedicles, and to old adhesions, induces a more or less serious paralysis of the intestine and symptoms of obstruction of a very grave kind. Here irrigation may not only be of benefit to the raw, granulating, possibly pus-discharging surface, but hydrostatic pressure may relieve an early obstruction. I had recent evidence of this in a case sent me by Dr. Haslewood of Prescott. I operated on a woman, aged 30, for ectopic pregnancy, removing the ruptured tube and ovary of the right side. The patient did perfectly well for two days when she became inclined to vomit, was talkative, and had some slight distension. On the third day she was a little better, passed flatus freely; and hæmorrhage, which had been tolerably free, nearly ceased. She became excitable later in the day, however, and began vomiting mouthfuls of greenish fluid, constantly and without effort. Flatus ceased to pass; her pulse ran from 115 to 140; she had no action of the bowels despite the administration of several aperients, epsom salts, seidlitz powders, 10 grains of calomel, and the injection of turpentine enemata and saturated solutions of sulphate of magnesia. She had distension of the right flank, which could be seen spreading upwards. As the day went on she had no relief from the vomiting, was anxious, flushed, and there was total constipation. Her condition was so extremely grave that I was perfectly certain she would die if I introduced a finger into the abdomen and searched for the cause of the trouble, which I believed to be the attachment of a loop of intestine to the seat of old adhesions in the right pelvis. I had previously raised the drainage tube to ensure that no pressure from that interfered with the intestine. I now proceeded to pass the tube from a douche can along the drainage tube and to pour into the abdominal cavity a hot solution of boracic acid. It gave her great pain, but she said "she felt it running about inside" when the can was raised about two feet. Then she fainted and the irrigation was stopped. Though much collapsed, the woman improved from that



hour. She passed a little flatus during the night, and we gave her 10 grains of calomel, which, with the aid of a seidlitz power, acted very freely next morning, and she made thenceforward an uneventful recovery. My opinion was shared by my colleagues who saw the case, both as to the cause of the symptoms and their relief, and I am satisfied that she owed her life to irrigation. Possibly the water separated a newly-formed adhesion and floated up the attached bowel. I mention the case as an indication of something to be hoped from post-operative irrigation as a means of obviating more serious surgical procedures that might easily prove fatal to an exhausted patient.

But such adhesions are, I submit, less liable to arise if irrigation is practised during the operation, or saline solution poured into the peritoneal cavity at its conclusion. The recovery of damaged peritoneum is likely to be more rapid and the layer of normal saline between opposed surfaces might, one would think, check the formation of adhesions. I had irrigated during operation, however, in the case just quoted. Irrigation, by protecting the peritoneum, prevents damage to its powers of destroying pathogenic organisms or disposing of their products. That this power is enormous is not only demonstrated by surgical procedures, by accidents, &c., but has been shown by experiment. It is also indicated by the reaction against the use of drainage, which may easily be carried too far. Muscatello's work, quoted by Dr. Clarke (*loc. cit.*), shows that a great increase of wandering cells occurs in the peritoneal cavity on the introduction of foreign or irritative particles, and numerous experiments have demonstrated the bactericidal properties of this ill-understood membrane. It is in respect to this property of the peritoneum that saline irrigation gains an additional importance. It removes septic material and culture media in a manner that leaves a less damaged peritoneum to cope with any possible infection left behind.

I think we shall see some method of mitigating the

starvation of our patients after abdominal section in due time. The explanation of the use of purgation and starvation, by making the tissues more greedy for fluids and so promoting absorption from the peritoneal cavity, does not always hold good in the light of Professor Sherrington's work and our experience after irrigation, and after rectal feeding, &c. The explanation is rather to be sought in the good results of keeping the intestine empty, so that, when partly paralysed by injury, it shall not have its condition aggravated by the presence of stagnating, decomposing food. Starvation is good from this and other points of view ; but unless we prevent thirst by the introduction of fluid into the peritoneal cavity, we should, I think, recognise its importance as a symptom and take steps to relieve it for other reasons than the distress of the patient. Since writing the above I am pleased to note in a paper by Christopher Martin<sup>13</sup> confirmation of this view.

Post-operative irrigation seems to me to be limited to commencing peritonitis ; to lavage of septic cavities and the introduction of disinfectants therein ; and as a hydrostatic agency for the relief or prevention of such cases as those mentioned, of obstruction at a definite centre rather than a general paralysis of the gut. I repeat that operative irrigation should prevent the necessity for drainage ; and post-operative irrigation will generally be associated with drainage. I have purposely omitted from discussion here cases in which irrigation forms an essential part of the operation, *e.g.*, tubercular peritonitis, and some pelvic abscesses. Nobody questions the use and value of the proceeding herein ; we discuss cases only in which irrigation is not practised as a necessary or desirable part of the operation. I need not insist on the indications for irrigation further, or do more than suggest that it is nearly always harmless, and nearly universally useful if the following precautions be taken in its use.

(1) Use rather normal saline solution than plain hot water.

(2) The temperature of the fluid should be little above blood heat, unless in cases of severe hæmorrhage, when irrigation should be confined to the affected area and the stream shut off as far as possible from viscera not implicated.

(3) Avoid irrigation in septic cases.

(4) It should not be too prolonged, since a sodden peritoneum is likely to suffer damage as an absorbing agent, if it be not irritated into such a suspension of this function that blood and plasma might be left unabsorbed for a dangerously long period.

(5) Where not required for cleansing purposes or as a hæmostatic, equally good or better results will be obtained by pouring into the abdomen a quantity of normal sterilised saline solution, or by injecting it into the rectum.

I do not know that it has been common to use medicaments as hæmostatics, &c., in the peritoneal cavity. I do not see that a local irrigation with a solution of hazeline or matico would do much harm. But we have the best evidence that stimulants may be introduced into the peritoneal cavity with excellent results. In a too brief account of a brilliant case,<sup>14</sup> Mr. Puzey shows how, at the close of a long and most grave abdominal operation, he introduced into the abdomen of a woman, just before closing it, a glass of whisky in hot water; the woman revived rapidly, and made a good recovery. It is worth recalling, since it is probable the solution would be as rapidly absorbed from the peritoneum as if carried into a vein directly, or into the cellular tissue; indeed the spirit may have hastened absorption. Whether we shall some day use a true nutritive fluid in this way, or strychnine, or other drug, remains to be seen; the point raised is practical and noteworthy.

In looking through my last thirty abdominal operations, I find them to be sufficiently varied to be illustrative of abdominal surgery in general and of the frequency with which irrigation is called for on lines we are at present following. The cases included :—

Six exploratory operations, viz:—1 for stone in the kidney, 1 immense sarcoma of the kidney, 1 cancer of stomach and 3 of cancer generally diffused throughout the peritoneal cavity. One abdominal hysterectomy, 1 vaginal hysterectomy, 3 enterostomies (1 for intussusception), 1 closure of artificial anus, 1 ovariectomy, 5 removal of diseased appendages, 1 ectopic gestation, 1 lumbar colotomy, 1 supra-pubic lithotomy, 3 tubercular peritonitis, 1 cholecystotomy, 1 ventrofixation of the uterus, 2 separation of uterine adhesions, 2 pyo-salpinx.

Of these thirty cases four terminated fatally, two of the exploratory and two of the enterostomies. One woman was dying with acute peritonitis, and exploration discovered a large cancerous mass roofing in an abscess-cavity which was floored by the uterus. The peritonitis continued unrelieved by irrigation and drainage, and she died. Here irrigation was practised during and after operation. Another case of diffuse cancer died of suppression of urine on the second day; two enterostomies were done when the patients were in extremis and only lived about twelve hours. Irrigation was practised in one case for purposes of lavage only—the ovariectomy (3·3 per cent.); in four cases as a hæmostatic (13·3 per cent.), and in other four it was an essential part of the operation; these were the cases of tubercular peritonitis and the abscess referred to.

The above gives no indication as to the influence of irrigation on mortality. I fancy, however, that in the case of malignant disease, the woman would have done better without irrigation, which simply gave her a diffuse peritonitis instead of a localised one. As her condition was hopeless, however, that was of little moment.

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## GYNÆCOLOGY AMONG THE INSANE IN PRIVATE PRACTICE.

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THE inauguration of gynæcological work among the insane in Canada is due to the persistent efforts of Dr. Hobbs, Assistant-Physician to London Asylum, who, by the way, is a member of the British Gynæcological Society. Following in his footsteps is Dr. Burgess, Superintendent of the Protestant Asylum, of Montreal; but with these exceptions, modern treatment of female disease has not become a factor in the therapeutics of the Canadian hospitals for the insane. In private practice but one operator other than the writer has reported results—I refer to Dr. Holmes, of Chatham, Ontario, who reports 23 cases of puerperal insanity, cured, or at least, cures following operative procedure for the removal of surgical lesions.

My attention was especially called to this matter by a paper, read before the British Medical Association in Montreal, by Dr. Hobbs, in 1897, in which he gave the results of two years' work in the London Asylum. These statistics were so startling that I resolved to test them on the first occasion, and to determine for myself. Such an opportunity soon presented itself in the case of a former patient, who had to be committed to the provincial asylum during my absence in Europe. I give the history somewhat in detail :—

Mrs. F., aged 35, of excellent family history, no hereditary taint, mother of two children; the elder suffered from asthma, the younger from chronic hydrocephalus. She had enjoyed excellent health until, after acting as nurse

to both children and attending to her household duties, she became considerably debilitated. This, with the shock of the younger child's death, caused by his falling from the verandah where his mother had placed him in a wheel chair, brought on intermittent melancholia, from which she suffered for eight months. At this period, while visiting a friend, symptoms of pronounced insanity with suicidal tendency were developed. After a month's treatment under the care of a nurse she was committed to the asylum on April 1, 1895, where she remained until January 3, 1898. During this period she was at times violent, would attempt to scratch and bite her attendants, exhibited a most obstinate disposition, was considered by the late matron as one of the worst cases, and by the authorities as hopeless. The medical superintendent gave the friends no encouragement for her recovery. Having obtained permission from the patient's husband, with the assistance of Dr. Boggs, and with the courteous co-operation of the medical superintendent, Dr. Bodington, F.R.C.S., the patient was placed under chloroform and a pelvic examination was made. The right ligament was thickened, left ovary prolapsed, uterus fixed and perinæum partially ruptured. Upon these data I recommended operative measures; my recommendation was adopted, and the patient was placed under the care of two trained nurses, as admission to the hospital was refused.

*Section, January 5.*—Right ovary was found cystic with tubal adhesions; left ovary adherent in *cul-de-sac*, fimbriated extremity closed. The appendages were removed, uterus also curetted. The operation was brief and almost bloodless; post operative history normal; stitches removed on the twelfth day. The mental condition remained unchanged for some days. She persisted in sitting up in bed, tearing the bed-clothes and endeavouring to bite and scratch the nurses. It was necessary to tie her hands to either side of the bed and place a heavy bandage over the lower part of the body. Upon the fourteenth day after

the operation she became calm and recognised her mother. On the following day she conversed a little and appeared to appreciate the kindness of the nurses. Upon the seventeenth day the patient appeared more rational, did a little sewing, and took an interest in her surroundings. The following day I allowed her to see her daughter, a bright girl of eleven years, whom she had not seen since entering the asylum. The meeting was not one to be soon forgotten ; it was one of those periods in a physician's life when his remuneration is beyond computation, an experience that lives. The patient acted and spoke as only a rational mother could. Day after day, as the physical strength increased, the mind became capable of more extended effort. Thirty-five days after the operation the nurse accompanied the patient to her home and remained with her a few days ; and to-day, after two months, the patient is managing her own household and attending to her own duties with all the reason and energy of her former self. Her husband has informed me that he detects no difference in her present mental condition from that of five years ago. Since the operation she has gained thirty-five pounds, and to-day is perfectly healthy in mind and body.

Such is the brief history of one who spent two years and eight months in the asylum, "a hopeless case of insanity," one who "was not a fit case for operation," and who would have been doomed to such a life until death closed the scene, who to-day is restored to her family. Of course it is too early to speak of a permanent cure, and some critic might suggest that nature had removed the disease, as many cases of insanity recover. But the fact remains that the patient was relieved of her disease after the removal of the diseased organs, that there were no indications of cortical lesions or other lesions beyond the pelvis, that it is not in the ordinary process of nature that salpingitic adhesions become absorbed, nor do cystic ovaries become normal. Therefore, are we not justified in concluding that the pelvic condition was the cause of



insanity, and that if there had been no surgical procedure probably the condition would have continued? Can we yet state with mathematical exactness what part of the body the mind inhabits, or is it located in one part to the exclusion of the other parts? A study of the development of the nervous system of the forms of life would lead us to conclude that we cannot give definite location to the mind. If so, we may possibly underrate the office of the abdominal ganglia and plexus, and we may find that normal mentality depends, to a much larger extent, than we supposed formerly upon the proper condition of the abdominal and pelvic organs.

During the last nine months, ten other cases have come under my observation. In each case a pelvic examination was made, anæsthesia being used when the patient resisted.

The results briefly stated are as follows:—Cystic ovaries with salpingitic adhesions found in 3 cases; retroversion with adhesions, results of pelvic peritonitis and adhesion of clitoris, 1 case; tubo-ovarian abscess, 1 case; varicocele of broad ligaments with cysts of peritoneum, 1 case; varicocele of broad ligaments with cirrhotic ovaries, 1 case; undeveloped organs, 1 case; no abnormality found, 2 cases.

In six of these cases there was a history of previous pain and discomfort in the pelvis, in four a history of pelvic inflammation, puerperal or gonococcal. Upon one case I was refused operation by the husband of the patient, three gave sufficient pelvic lesion to justify operation, the remaining seven received the gynæcological treatment which the local condition demanded. They were treated in the manner which we would treat the same conditions in the sane. Of the results it is too early yet to speak, but up to the present time I see nothing but encouragement. One case died from meningitis seven weeks after the removal of enlarged ovaries with cysts as large as walnuts; recovery from the operation was perfect and the death due entirely to other causes than pelvic.

Two cases taken directly from the asylum after a residence of two years and eight months, and three years respectively, are apparently cured, both considered hopeless by the asylum authorities. A third greatly improved. Three other cases are doing as well as could be expected, and in no case was physical or mental condition rendered worse by the treatment, unless some critic wishes to place the death from meningitis against these results.

Now the point to which I wish to call particular attention is not the result, for that cannot be reported upon with any degree of definiteness for another year yet, but to the high percentage of pelvic disease among our female insane. My own experience tallies closely with that of Dr. Hobbs, who states in his report: "We have examined 136 women with reference to the presence or absence of disease in the reproductive system. Out of this number 126 had serious organic lesions or malformations incompatible with normal genitalia."

It behoves us who have the welfare of the country at heart, and who are especially interested in the alleviation of suffering, to consider these things and to continue investigation in this department, which has apparently been so neglected. No less an authority on the subject than your own Mr. Barnes, in discussing the subject before the British Gynæcological Society, the result of an operation on an insane woman, said: "If the present case had gone into an asylum I believe that she would have stayed there, for I think that it is a great fault in the organisation of our asylums that there is no provision made for the examination of such cases."

In conclusion, I would urge upon every physician the necessity of making a thorough pelvic examination under anæsthesia of every case before signing papers of commitment. If the physician has not the experience he should associate himself with one who has special training in this department. Such careful examination would send at least one patient to the hospital for every two that were

sent to the asylum. Is it not time that the blessings of modern surgery should be extended to our mothers, sisters and daughters, many of whom are in living death, hopelessly incarcerated? And then, the next step, let us apply these principles of treatment to the opposite sex.

[Owing to pressure of space the reviews of several books are held over till our next issue.—EDITOR.]

## THE ANNUAL DINNER.

A MOST successful annual dinner was held on Thursday, November 24, 1898, at the Café Monico, with the President, Dr. Macnaughton-Jones, in the chair. The dinner itself was excellent, and the speeches, which were more than usually sparkling, were highly appreciated by the goodly gathering of Fellows and friends, to the number of over eighty, who came from all parts to support the chair. We much regret that we are unable to report these speeches as fully as we could wish; but we have done so as far as possible.

The President was supported on his right by Sir Wm. Turner (President of the Gen. Med. Council); Sir Wm. Broadbent, Bart.; the Master of the Society of Apothecaries; Sir P. Smyly; Mr. Langton (President Clin. Soc.); Dr. C. H. F. Routh; Dr. Ward Cousins (President-elect Brit. Med. Assoc.); Prof. Japp Sinclair, and Mr. Bowreman Jessett; while on his left sat the Director-general of the Army Medical Department; Mr. J. L. Swan (President R.C.S.I.); Mr. Edmund Owen (President Med. Soc.); Sir J. Crichton-Browne; Dr. Granville Bantock; Prof. Clifford Allbutt (Prof. Med., Cambridge); Dr. Dudley Buxton (President Soc. Anæsth.); Dr. Lombe Atthill and Dr. Clement Godson. At the other four tables were ranged the remaining guests and Fellows, among whom might be noted the Editors of the *British Medical Journal* and *Medical Press and Circular*, Dr. S. A. Hunter, Dr. P. Z. Hebert, Dr. G. A. Simeon, Dr. J. W. Smyth, Dr. A. W. Wigmore, Dr. Fitzgerald, Dr. T. Neville, Dr. W. M. O'Connor, Dr. H. Downes, Dr. R. A. Clarke, Dr. M. Robinson, Dr. Heywood Smith, Dr. A. E. Bridges, Dr. J. Oliver, Dr. C. H. Bennett,

Dr. L. McManns, Dr. G. D. Wilson, Dr. S. W. Cheetham, Mr. C. Ryall, Dr. G. Roe-Carter, Dr. W. D. Spanton, Dr. W. J. Cameron, Dr. R. H. Hodgson, Dr. R. T. Bakewell, Dr. H. Macnaughton-Jones, junr., Dr. Travers, Dr. F. Travers, Dr. Bellis, Dr. D. Thomson, Dr. E. T. Collins, Dr. R. T. Smith, Dr. W. H. Putsey, Dr. W. Donovan, Dr. W. Dingle, Dr. W. Armstrong, Dr. Mansell Mouldin (Hon. Treasurer), Dr. Schacht (Hon. Editor), and Drs. G. E. Keith and A. G. Giles (Hon. Secs.).

As soon as dinner was over the PRESIDENT rose and said :—The first toast is that of “Our venerable Queen, and the other members of the royal family.” Her Majesty, venerable from her years, venerable from her length of reign, and most venerable for her private attributes as a woman, and her public acts as a Sovereign. Not often in future generations will it be given to the citizens of any State to boast of a Sovereign so illustrious or a reign so remarkable. Of His Royal Highness the Prince of Wales, it is not too much to say that there is not in any country a prince more popular than he. The cause is not far to seek. The late Laureate used, in reference to a great Irishman, a happy phrase, when he said that he was rich in saving common sense ; and it is to this remarkable common sense, added to the kindest of dispositions, and the possession of all those qualities which combine to make him the foremost gentleman in England, that we may attribute the love and regard that he has secured. This toast is to-night a specially welcome one. The Prince of Wales has always associated himself with our philanthropic undertakings, charitable institutions, and our scientific aims and interests. He is even one of ourselves, as a Fellow of the English College of Physicians ; but if you in England can claim the Prince, we in Ireland can boast that Her Royal Highness the Princess of Wales is a member of that University of which I am proud to be a graduate. To-night, as I have said, this toast is peculiarly happy, from the knowledge that, thanks to the skill of British surgery, the Prince has quite recovered from his recent accident.

This toast having been responded to with the usual enthusiasm of the medical profession, Sir J. CRICHTON-BROWNE proposed the next toast—that of “The Sister Societies”—in one of his brilliant specimens of after-dinner oratory which we much regret we are unable to report verbatim, and of which no mutilated account would give an adequate impression. The substance and style of his remarks were conceived in his happiest vein and were highly appreciated by his audience. Prof. CLIFFORD ALBUTT and Prof. JAPP SINCLAIR replied in markedly well-chosen remarks and thoroughly characteristic style.

In rising to propose the toast of the evening the President of the General Medical Council (Sir WILLIAM TURNER) thanked the Society for the honour conferred on him by selecting him to propose the “British Gynæcological Society.” The claim which the Society had for recognition amongst professional societies did not rest on its antiquity. It had not reached the stage of being able to celebrate a centenary, or to ask its friends to congratulate it on having attained a jubilee, or even a silver wedding. It was amongst the youngest of the professional societies, having been founded some fourteen years ago, and its claim to be held in remembrance was based upon the excellence of the work done by its Fellows, and the contributions which they had made to the science and practice of the branch of the profession which they had especially applied themselves to cultivate. The Society arose from a feeling on the part of many, that, owing to the great advances which had been made in late years in abdominal surgery, the time had arrived when a Society might very properly be formed consisting of those who undertook the treatment of the diseases peculiar to women, more particularly those that required surgical interference. The Society has grown and prospered since its foundation, and its published JOURNAL gave ample evidence of the work which its members had done, and of the interesting discussions which had taken place at its meetings. One could not but admire the skill

and courage which had been shown in devising and carrying through the operations which had received the high-sounding appellations of oöphorectomy and pan-hysterectomy, and one could not but congratulate oneself on belonging to a sex which was outside the range of these forms of surgical practice. The Society had, however, an impersonal character, and in wishing it a continuance of its labours and prosperity, one would like to associate with it the name of the President, Dr. Macnaughton-Jones, who had presided over them that evening with so much dignity and courtesy. His position as President of the British Gynæcological Society was in itself a proof of the regard and esteem in which he was held by his fellow workers and colleagues, and he would venture to congratulate him on having attained this position, notwithstanding that he settled in London at a much later period of life than is usually the case with successful practitioners, and without the adventitious aid of a connection with a large general hospital.

The PRESIDENT, in reply, said :—

Sir WILLIAM TURNER, GENTLEMEN,—My first duty is to express the thanks of the Society to the many distinguished visitors who have honoured us by their presence here to-night. May I not say that this is a singularly happy gathering, for we have here well represented that triple link which should always typify the physiological union of the different parts of the United Kingdom. We have also here representatives of those various departments of medicine which the art that we represent so much depends upon for its progress. Sir William Turner, Sir J. Crichton-Browne, the Director-General of the Army Medical Corps, Professor Japp Sinclair, are worthy representatives of Scotland ; the President of the Irish Royal College of Surgeons, Sir Philip Smyly and Dr. Lombe Atthill (our Honorary Fellow) of Ireland ; the President of the Medical Society of Wales ; and Sir William Broadbent and the Regius Professor of Medicine in Cambridge University, Dr. Clifford Allbutt, of England. And it is

right that this should be so, for, as I have said, gynæcology owes much of its modern position to an improved knowledge of the anatomy and physiology of the generative organs of women, and though gynæcology more appertains to the surgical art than to pure medicine, we must recognise the fact that while the physician may not practise gynæcology as a special branch, no man can be a good gynæcologist who is not also a good physician. It can certainly now with truth be asserted that no branch of surgery has so advanced, and made such strides in so short a time, as that of gynæcology. Witness, as a proof of this, the appearance lately of that unrivalled work of surgery, unsurpassed in the beauty and art of its illustrations, and its pathological and operative literary merit, Dr. Howard Kelly's "*Operative Gynæcology*." Sir J. Crichton-Browne will, I think, agree with me when I say that many subtle questions of a psychological nature are involved in the affections of the generative functions in women. Anæsthesia it is that gives us in difficult and anxious moments ease of brain and freedom of hand, both of which I have often had through the skill of the President of the Society of Anæsthetists, Dr. Dudley Buxton, who is present. In fact there is no branch of our art which gynæcology does not directly or indirectly fringe upon. I fear that not long since I rather startled an ophthalmological section of the British Medical Association by reading a paper by which I proved that it was as necessary for an ophthalmologist to recognise the causes outside the eye that must be taken into account when treating its affections, as it is for the gynæcologist to recollect that errors of refraction in the eye may cause symptoms which he is apt to attribute to some morbid condition of the pelvic organs in neurasthenic women. Happily then, as I have said, have we distinguished exponents of all these branches present this evening. Such is the School of Surgery we assume to represent in Great Britain, and we must be prepared to answer the questions—Do we creditably represent it? Are we in the van? Is the



work we are doing, good work ? Not without considerable experience of the operative work done abroad by some of the first of our Continental *confrères*, do I assert that there is as good operative gynæcology done in Great Britain as in any part of the world, and by Fellows of this Society. We are not above learning many lessons from our Continental and American *confrères*. The secret of a society's, as of a man's, success and advance, is the ability to learn from others and profit by their errors. It is on the recognition of the mistakes of our past that we build the successes of our future. The man who knows that he does *not* know, in time comes to be the man who knows that he knows. So, while we are ready to take lessons from any source—even from the North of England Obstetrical and Gynæcological Society, which our friend, Professor Japp Sinclair, so worthily represents to-night—there are just a few things in which we feel that they need not be ashamed to take lessons from us. Gentlemen, I think we may say that the session that has passed has been a successful one. Our Council meetings have been held regularly, our ordinary meetings have been well attended, the matter discussed has been good, and close upon a hundred new Fellows have joined our ranks. During the year an address, at which some of the leading gynæcologists of Europe, America and Canada were present, was given by Professor Martin of Berlin, and was listened to by a large number of our Fellows. This dinner affords the President an opportunity of inviting and urging the Fellows to renewed exertion for the coming year, and inciting each individually to do something to raise the character and dignity of the British Gynæcological Society. I do not think I exaggerate if I say that jealous eyes are upon us. Success always excites jealousy, for jealousy is the reverse side of the shield of success. It is for us to strive so to increase the reputation of the British Gynæcological Society as to place it above the reach of all jealousy by permanently earning for it the name which it now bears, of being the accepted

exponent of the most advanced school of British Gynæcology.

Dr. BANTOCK followed with the toast of "Our Guests," and pointed out that the Society was honoured by the presence of many distinguished men—men who were not only distinguished for the eminent positions to which they had attained, but who were also eminently qualified for those positions.

Two great institutions were represented there. The first was his own alma mater, the renowned University of Edinburgh, in the person of its distinguished professor of anatomy, Sir Wm. Turner, the worthy successor of the illustrious Goodsir, of whom it might be said that he was gigantic in stature as he was gigantic in intellect. He (Dr. Bantock) had the liveliest recollections of the time—over forty years ago—when he had the privilege of attending the anatomical demonstrations of Mr. Turner (as he then was), demonstrations so clear, so interesting and so instructive, delivered with all the energy and conscientiousness that are so characteristic of the man, and with an enthusiasm which, in his own case, was eminently contagious. Sir William was also President of the General Medical Council, but he (Dr. Bantock) feared he did not derive from his labours there the satisfaction he got from his professorship.

The other institution was the Royal College of Surgeons of Ireland, which was represented by its President, Mr. Swan, whom they were glad to see amongst them.

One of the public services was also represented by Dr. Jameson, C.B., in his capacity of Director-general, R.A., M.C. He was glad to be able to claim him as a countryman, though he regretted he did not come from the same University as himself. But Glasgow, from which he hailed, had turned out many notable men, and would continue to do so.

Then they had three Societies represented. The great British Medical Association, the largest Society of medical

men the world had ever seen, in the person of its President-elect, Dr. Ward Cousins; the oldest Medical Society in London, viz., the Medical, in the person of its President, the genial, humorous and dexterous surgeon, Mr. Edmund Owen; and finally, to show that we need not fear the decadence of the breed, they had one of the baby Societies, viz., the Society of Anæsthetists, represented in the person of Dr. Dudley Buxton, its President, than whom he knew no more able exponent of the subject of anæsthetics.

There were men also whom the Queen had been pleased to honour. Sir William Broadbent was sufficiently well known to all of them. He had the honour of having on his right the brilliant and versatile orator—one whom he regarded as the greatest orator of whom the profession could boast at the present day—his fellow-student, Sir J. Crichton-Brown, and lastly a distinguished member of the profession from across the Irish Channel, Sir Philip Smyly, whose acquaintance he was glad to make.

Even this did not complete the list of distinguished men, for they had the honour of entertaining the Regius Professor of Medicine in the University of Cambridge, Dr. Clifford Allbutt, to whom they had had the pleasure of listening that evening; Dr. Lombe Atthill, whom they would prefer to regard as a distinguished representative of their department of practice than as a member of the General Medical Council; and lastly, Professor Japp Sinclair, a representative of our special branch from Manchester.

Until a recent date the realm was said to consist of three estates, but circumstances had compelled the recognition of a fourth, viz., the press. It was unquestionable that the press exercised an enormous influence in this and other countries—notably the United States of America—but it was doubted whether that influence was exercised for good. He was inclined to be charitable and to believe that in the majority of cases it was exercised with a beneficent intention. They had their own press, which was devoted to matters of interest in the profession, and that

press was represented by the great *British Medical Journal* in the person of Mr. Geo. Eastes, and by a journal no less worthy of our respect and esteem, the *Medical Press and Circular*, in the person of its editor, Dr. Gubb.

The toast was coupled with the names of Mr. Edmund Owen and Mr. Swan.

Mr. EDMUND OWEN, President of the Medical Society of London, returned thanks for the Visitors, and in doing so remarked that his brother visitors had requested him to offer their congratulations to the fellows of the Gynæcological Society for the success which it had attained. It had, indeed, justified its existence by the good work which it was doing and had done. Though it had started life as a protoplasmic offshoot from a highly respectable Society, it seemed to be by no means certain that it would itself turn out respectable—so people said at the time, at least. He had friends, or at any rate, he had acquaintances, who had started life as protoplasmic offshoots from highly respectable parents, yet did not themselves turn out of so high a character. The Gynæcological Society was not only respectable, but it was respected.

Mr. Owen next had a word or two to say about the great Exhibition which was to be opened in Paris in the last year of this century, namely in the spring of 1900. Arrangements had been going on for a special exhibition of the parts which gynæcologists had removed in the course of their daily work. But when it was discovered that an entire *annexe* of the exhibition would be needed for the show in order that their specialty might be fully and fairly represented, an alternative scheme had to be proposed. This was the alternative, and it had been cheerfully and manfully accepted, namely, that the parts should be shown which a gynæcologist had left in an abdomen when he had done a "pan-hysterectomy," or what he called a "completed" operation. The only space demanded for this exhibit would be a glass case of about 6 in. by 6 in., and there would not be much in that.

Mr. Owen then made some good-humoured, chaffing remarks about the position of the "obstetric physician," whom he seemed to think was quite out of date. One did not know at the present time if that gentleman was a physician or a surgeon. At the College of Physicians they deemed him to be a surgeon, and at Lincoln's Inn Fields they regarded him as a physician. He did not just now cure many of the diseases of women by drugs or medical treatment; indeed, he did not profess to do so, and he operated whenever he got the chance. Pall Mall East shook its venerable head and refused to give him their Fellowship. Possibly *give* was not quite the right word, as each happy gentleman who was elected to have the Fellowship given him had to *pay* very heavily for it. Still, one could not help thinking that the Pall Mall East authorities were right in considering that a pure physician could not be an operating surgeon. The British Gynæcological Society had a work to do in educating the profession and the committees of hospitals in the matter of obstetric physicians—so-called—and the needs of their departments. The Gynæcological Society had treated their guests in an extremely hospitable manner, but in a manner which was quite unusual with them. The habit of the Gynæcological Society was to take everything out of the inside of those with whom they came in contact—everything that they could lay their hands on. But to-night they had magnanimously refrained from this and had gone on the opposite tack; they had put everything into the inside of their guests which the best culinary art could devise, and had taken absolutely nothing out. Still it must be remembered that the visitors were all of the male sex. He did not think that in the present vigorous state of the Gynæcological Society it would be altogether advisable to ask ladies to their banquets. There might be a point, and, perhaps, not a far distant one, beyond which gynæcological zeal and hospitality might not be trusted. But, as he had suggested, their zeal and enterprise had been that evening kept in perfect control, though their hospitality had been without

bounds, and for both these mercies the visitors returned their sincere and grateful thanks.

Mr. SWAN returned thanks for the guests and for himself. His hearers were aware of the tendency in human nature to have a grievance—Ireland had many grievances of which they read in Ireland, in the *Times* and *Standard* and other English papers in which parliamentary reports were fully given. They were proud of their representative's aptitude for romantic episode. He dined last night with a body of Irishmen, an Erin in London, with its smiles, but without its tears. They had a grievance which seemed a serious one. A gentleman returned thanks for the guests. He, too, had a grievance. Harley Street, he said, was a Pyrrhenean Valley, a Lourdes in London, lined with hermits, who each had a grotto of his own and took toll of the passing pilgrim. His grievance was that there were too many Irish hermits; that they tapped the procession heavily, and that the very worst of them, he believed, was their distinguished chairman of to-night.

Dr. LOMBE ARTHILL proposed the health of the President. He said he did so with pleasure as being a very old friend. The President's career had been a remarkable one. Commencing practice in the city of Cork, he soon attained a leading position there. He did more, for he founded a Lying-in Hospital, an institution which does good work, educating a large number of students and midwives; and if provincial practitioners were to follow the President's example and endeavour to have lying-in charities established in the large towns in England—if only for the sake of educating midwives they would be doing much good. The President removed to London but a short fifteen years since, and at that time, though a stranger without friends, and without any public appointment, he gained a large practice and an honourable position. This was due to his industry and energy, no less than to his professional attainments. By electing him President of the British Gynaecological Society the Fellows showed that he had also gained the confidence and esteem of his profession.

Dr. Atthill concluded by thanking the Fellows for the honour they had done himself by electing him an Honorary Fellow of the Society.

The PRESIDENT, in reply, said :—I desire to thank Dr. Lombe Atthill for the kind and friendly manner in which he has proposed my health, and the Fellows generally for the warm way in which they have received it. Dr. Atthill has been one of the foremost pioneers of gynæcology in this country, at a time when it was yet in its infancy, and his was one of the earliest works which had given an impetus to the study of our modern methods of treatment. I am pleased to see many old friends present to-night. Dr. Atthill has referred to my early career in Ireland, when I was engaged in the practice of many other "ologies" besides this one, at a time when I little imagined that I should ever occupy the Chair of a British Society in the English Metropolis, then working in a comparatively remote city in Ireland, and he has not exaggerated the difficulties of my London career. It demanded liberality and breadth of mind on the part of the Fellows to place me in this position—one which I feel myself so unworthy of—inasmuch as I am aware that in some ways I have ridden rough shod through many of the traditions which control medical practice in London. To one here, I am glad to have an opportunity of saying that I have never forgotten a warm-hearted, generous, and kind letter which he wrote me under those circumstances—I refer to Edmund Owen. He will, however, not mind my saying that I think he has been rather hard on us gynæcologists, and that general surgeons have a good deal to answer for with regard to their own sex ; for if my memory serves me rightly, I think it was at the Leeds Meeting of the British Medical Association, that several victims to prostatic enlargement exhibited their ablated glands, and still more recently, another radical operation has been performed for this condition, leaving to the survivors that which may be ornamental, but certainly is not useful.

To be President of a Society which now numbers nearly six hundred Fellows, amongst which are representatives of almost every country in Europe, and various parts of America, and of all our Colonies, is a position the occupant of which may well be proud of, and I have to thank you most heartily for the proof of your kindly appreciation and goodwill in electing me to it.

Mr. JESSETT brought the toast list to a close by proposing "The Officers of the Society," in the following terms:—At this late hour of the evening, I will not, much as I should like to, trouble you with a long speech. But the toast that is placed in my hands demands a few words. The first body of officers, which consists of the President and Vice-presidents of the Council, should have our heartiest thanks for the able manner in which they have managed the business of the Society during the year. The Treasurer is in the happy position of having a goodly balance at his hands, of which he takes the utmost care, and his labours must on occasions be great, having to send out and remind Fellows that their subscriptions are due. To the Editor of the Journal perhaps our chief thanks are due, as nobody reading this can fail to understand the vast amount of work that is entailed in collecting and arranging the different valuable articles and abstracts, so as while condensing these to their utmost limits none of the pith of the articles are lost. So much labour does this entail that the Council, at the wish of the Editor, has appointed two more Editors to work with the present Editor. Of the Secretaries nothing more need be said than that which is so well-known, viz., that the success of the meetings, the success of the Society, the success of the Annual Dinner, which we have all so much enjoyed, depends to a very great extent upon their labour, tact and judgment, all of which good qualities are embodied in our present Secretaries. Gentlemen, I will say no more, but propose the toast of "The Officers of the Society," coupling with it the name of the Treasurer, Dr. Mansell Moullin.



The PRESIDENT handed to Dr. Mansell Moullin an illuminated address conveying the good wishes of the Council on the occasion of his marriage, and their appreciation of his continuous official work for the Society ever since its foundation.

Dr. MANSELL MOULLIN, after thanking the President for his kind address, which had come upon him as a complete surprise, responded for "The Officers of the Society." He said that during the long period he had fulfilled the duties of Treasurer, it had never been his privilege to be associated with a more energetic or a more efficient Executive. It was entirely owing to the popularity of their President that the Society could boast this year of an enormous addition to its list of Fellows. Such an addition was always pleasing, regarded from the Treasurer's point of view, but he thought it was a matter for general congratulation, showing as it did, more clearly than anything else, the position of the Society, the good work it was doing, and the esteem in which it was held by the profession at large. The Journal was one of which the Society might well be proud. It was the only one of its kind in Great Britain, and worthily represented British Gynæcology. He hoped that under the management of its present Editor, Dr. Schacht, it would long continue to maintain its high degree of excellence. The Secretaries were indefatigable. The arrangements of the evening and the success of the dinner were due to their efforts. In fact, all the Officers of the Society worked together harmoniously and did their best in every way to promote its success. He thanked the Fellows for their kind toast and the cordial manner in which it had been received.

The various items of the evening's entertainment were interspersed by some capital vocal music by Miss Beatrice Willy (soprano), Mr. W. Andrews (baritone), Mr. J. Bromley (tenor), which added a pleasing and attractive finish to one of the most—if not the most—successful of the Society's Annual Dinners.

## REPORTS OF SOCIETIES.

SEVENTIETH CONGRESS OF GERMAN NATURALISTS AND  
PHYSICIANS, DUSSELDORF, SEPTEMBER, 18-24, 1898.

*Cæsarean Section.*—Frank (Cologne), from an experience of thirteen cases, rejects the Porro operation save for exceptional cases. The direction of the incision is very important to the subsequent health of the woman, if not so "*quoad vitam*." The best evidence of this is to be obtained from a second Cæsarean section on the same patient; adhesions are always found to exist, but in a less favourable position and to a greater degree when the incision has been in the fundus or posterior wall, as then the uterus must always be rolled forwards, and is thus exposed to more injury. The hæmorrhage does not depend on the direction of the vessels, but upon the seat of the placenta, which in ten out of the thirteen cases was above or behind. When the incision is made in the anterior wall it is easier to protect the peritoneal cavity; five of the thirteen uteri were opened *in situ*; if infection should occur the lochia find their way into the vesico-uterine pouch, where they are easily encapsuled. The anterior incision should therefore be preferred, and, moreover, should be low down, as with the tendency of the uterus to anteflexion the edges of the wound easily come into apposition. The incision may be made higher up if from the duration of labour the lower segment of the womb is greatly extended and there is danger of rupture. He showed a case in which utero-abdominal fistulas had developed, though for eight months after the operation by incision in the fundus (February 9, 1897) the woman had been in good health.

Everke (Bochum) had performed Cæsarean section thirty-five times—25 conservative operations, 6 Porro, 2 total extirpations—with a mortality, independent of deaths not due to the operation, of 14 per cent., of which 11 per cent. were due to sepsis. Of the children, 30 were born alive and 2 asphyxiated; 3 were dead before the operation. Of 18 women discharged cured after conservative operations five had become pregnant again. He believed that when cases were taken in time the results of Cæsarean section were not more unfavourable than those of perforation, and that, considering how many mothers suffered from vaginal and perineal injuries after the latter, thought that, in a well-appointed institution, Cæsarean section

should be preferred to perforation of a living child. When the cases were seen soon enough the induction of premature labour was better. Symphysiotomy was technically harder and more unfavourable to both mother and child. Three cases of atony were a warning against operating before the onset of proper labour pains. He was not in favour of the fundal incision. The essential point was the exact suture of the uterine wound, and latterly he had inserted internal deciduous stitches knotted inside the uterus as well as deep and superficial ones on the peritoneal side. The discussion also elicited opinions unfavourable to the fundal incision.

Freund (Strasburg) showed sagittal sections of a six-months foetus, a new-born infant, and a girl of 18 in connection with a paper on Normal and Pathological Conditions of Douglas's pouch. He held that a low-reaching Douglas was a sign of post-natal arrested development, and that an infantile condition of this pouch, combined with too slight inclination of the pelvis and marked congenital antelexion, was the cause of the large prolapse in virgins which invariably begins with hernia of Douglas's pouch. He drew attention to the existence of an unbroken strip of mucous epithelium which he had found extending from the pavilion of the tube over the fimbria ovarica and part of the posterior surface of the uterus over to the opposite side. Bayer has described a similar condition on the wall of the rectum and in the vesico-uterine pouch. The condition is important for the adherence of the placenta in extra-uterine gestation. He pointed out that by the peculiar mode of attachment of Douglas' pouch the uterus and rectum were anatomically separated and physiologically independent; but that affections of the large intestine may lead to agglutination and fixation of the pouch, and so to dysmenorrhœa, painful defæcation, and difficult and painful dilatation in childbed.

Fehling exhibited his new kephalo-thrypt-helktor, forming a combined cranioclast and cephalotribe. It is without the perforator of Auvard's and Zweifel's instruments, and has a sufficient length from key to points and a suitable pelvic curve, so that having two inner blades it can be applied to the head in first and second positions. For full description and illustrations see *Centralblatt f. Gyn.*, 1898, s. 1177.

Brennecke (Magdeburg) read an important paper on the Regulation of Schools of Midwifery and Lying-in Hospitals in the Organisation of the Hygiene of Labour and Childbed.

*Nervous Affections after Castration.*—Schmitz (Bonn). Psychoses and neuroses have been frequently observed after operative attacks on the female genital organs, and instances in which individuals hereditarily so disposed have become neurasthenic from too much attention being paid to their abdominal com-

plaints are extremely numerous. The indications for partial or general castration should therefore be laid down with very great caution, and be much more strict than those accepted by many gynæcologists at present. Two factors must be considered in the nervous troubles after castration—the omission of the so-called internal secretion and the great shock given the nervous system by the operation. The author recommended that in non-malignant disease, such as myoma, if the uterus be extirpated the ovaries should be preserved, or one of them if the other must be removed; that if both ovaries must be taken away the uterus be left.

*Extirpation of the Vagina.*—A. Martin (Berlin) after discussing the indications for the extirpation of the entire vagina, and describing the method of operating, exhibited a carcinomatous vagina removed with a carcinomatous uterus. He prefers the vaginal to the sacral operation, and has operated on a woman of 61 without making either Olshausen's perineotomy or Dührssen's vagino-perineal incision. After cutting round the hymeneal ring at the introitus, he was able, without introducing any instrument in the vagina, to detach and remove the entire vagina with the uterus and ovaries. The funnel-shaped wound was covered by drawing down the peritoneum and stitching it to the external wound in the hymeneal ring. The patient made an uninterrupted recovery, from the first micturating spontaneously. She had a gratifying convalescence, and seven and a-half months afterwards the local condition was satisfactory; a granulation the size of a pin's head has still to be investigated. The operation was in no way inconvenient. Martin advances no opinion as to whether vaginal carcinoma can be for any considerable time prevented from recurring, but says his procedure is a safe operation worthy of further trial. The vagina was removed with the prolapsed uterus by Chopin, and more recently more and more attention has been given to its removal in the most severe forms of prolapse. In such cases, when the results of the usual plastic operations with, it may be, ventrofixation or extirpation of the uterus, have been open to objection, P. Müller proposed to extirpate the vagina and leave the senile uterus *in situ* or merely amputate the collum. But this proposal must be rejected, as even the senile uterus is liable to serious diseases. Absence of the vagina no doubt puts an end to sexual intercourse, but in desperate cases such a sacrifice is outweighed by the prospect of a permanent cure, and perhaps the invagination of the cicatrix in the introitus may suffice for the purpose.

After observing one case for more than two years, during the last two Martin has operated on six old women with enormous prolapse, by extirpating both uterus and vagina; he also in

another case removed the uterus for the growth of myomata; in another for tuberculosis of uterus, ovaries, and both tubes; and finally in a young nullipara, who had elsewhere undergone three unsuccessful operations, including ventrofixation for her prolapse. She was able to work. Both adnexa showed old gonorrhœal suppuration.

Extensive partial extirpation has been performed by Fritsch and described by Asch, but Martin removes the entire vagina from the hymen upwards; the whole of the conical wound is invested with peritoneum drawn down and stitched all round at the introitus. The vulva itself is closed by transverse obliteration. Healing was rapid in all cases; bladder and rectum maintained their normal function, and by the constant retraction of the ligamentary stump a shallow dimple was formed in the cicatrix. The first case in which the entire vagina was removed was done one and a-half years ago, and when personally examined more than nine months after operation the cicatrix was in a most excellent condition.

*Discussion.* — Veit cannot approve of such an extensive operation for prolapse, even when limited to the most severe cases. The vagina is not the cause of the prolapse, and should not be removed with the womb. Operation should be early enough to prevent such desperate cases occurring, and for extreme cases we should not attempt radical cure, but merely such plastic operations as will enable a pessary to be worn.

Hofmeier said that when the pelvic connective tissue is too relaxed for colporrhaphy or ventrofixation to offer any prospect of success, the vagina should, after extirpation of the uterus, be almost entirely removed by Asch's method—vaginal flaps being everted, the peritoneum separately stitched up, and the two extensive wounded surfaces afterwards united.

Frank. Nothing can be said against extirpation of the vagina for carcinoma, and the operation is of value in severe prolapse, but only after the climacteric. He performed it as far back as 1887, by ligaturing the entire mass, in which he included a considerable portion of the pelvic peritoneum, and considered it important to do so. A plastic operation should supplement such ligation.

v. Herff. In extirpation of the vagina for carcinoma makes a curved perineal incision between vulva and vagina, detaches the rectum, and, after opening Douglas' pouch, stitches its peritoneum to that of the bladder, and thus makes the rest of the extirpation of uterus and vagina extra-peritoneal. In prolapse he does not expect success from any operation, because of the general enteroptosis. The best method seems to be ventrofixation with extensive colporrhaphy.

Thorn thought that in vaginal carcinoma, in view of the

doubtful prospect of permanent cure, the perineal method was not worth recommending; the usual propagation of the disease showed the sacral operation to be the best to prevent recurrence. For prolapse he makes an extensive resection of the vagina, uniting much parametric tissue.

Freund (Strasburg). The essential reason of the failure of operation for prolapse of course lies in the co-existing enteroptosis, it is simply irrational to cut away any part of the pelvic floor; he therefore preserves the uterus, returns and stitches it in the vagina. Three women cured in this way were shown at Frankfort, but the uteri atrophied, and this operation, therefore, can only serve when the function of the uterus can be dispensed with.

Martin replied to Hofmeier that the peritoneum is not forcibly dragged down, but is itself prolapsed. The extreme cases of prolapse must be relieved, and it is necessary for permanent cure that the extirpation of the vagina should be as radical as possible, and the incision must, therefore, be made in the hymeneal ring.

*The Limits and Results of Operative Treatment of Extra-uterine Pregnancy.*—Thorn (Magdeburg). Our knowledge of the nature of ectopic pregnancy has been materially increased by its operative treatment, more especially as regards the first three months of such pregnancy. Before the operative era this condition was only known from its results, hæmatocele and intra-ligamentary hæmatoma, of all cases of which 90 to 95 per cent. are now accepted as consequent upon it. The multitude of operations show that ectopic pregnancy is very common, its frequency varying with the locality, and being greater in the great centres of commerce and manufacture than in country districts.

About 10 per cent. only persist more than three months; in the rest the child dies with the well-known consequences—rupture and abortion, hæmatocele and the formation of hæmatoma. The danger of this result has been much exaggerated. On the basis of false statistics, and relying on the favourable course of laparotomies, more and more operators have resorted to active treatment in order to avoid this danger, but though no proof has yet been adduced by the partisans of active treatment that expectative treatment, in suitable cases, has bad results, men continue to interfere surgically even with forms of ectopic pregnancy, the harmlessness of which, under proper care and supervision, has been proved. Martin, for instance, operated in 77 of 89 cases, and as 9 of the remaining 12 died under expectative treatment we must suppose that they were past hope for successful operation. Küstner seems to operate just as freely. At the sixty-sixth Congress of Naturalists Thorn insisted that the danger of hæmatocele and intra-ligamentary hæmatoma were

greatly exaggerated, and that the only indications for operative interference were hæmorrhage or decomposition; it is now proved that ectopic pregnancy frequently terminates in hæmatocele or hæmatoma, and its prognosis is much more favourable than would appear from statistics. Thorn has watched 136 cases of tubal pregnancy, 132 in the first three months. Of these, 30 were operated on by laparotomy, 9 by incision, and of the 39 two died, one after rupture *in extremis*, and one, who had undergone curettement before he saw her, from sepsis; besides these deaths there was one from hæmorrhage after rupture. Under expectative treatment 96 recovered, and only 13 had any subsequent trouble, which for the most part was due to previous perimetritic processes; no woman was quite incapacitated. Decomposition was the indication for 5 of the 9 incisions; the other 4 were made to expedite cure, and did not do so. Thorn's principles are that every case of ectopic pregnancy or its results should be placed as soon as possible under clinical care. Every ectopic ovum should be removed by laparotomy if living, or even though dead, if still in its ovisac, as soon as the second month of pregnancy has elapsed; an ovum of not more than eight weeks' development can be completely resorbed in the tube without subsequent ill effect, but this can only happen under firm clinical control. Threatening symptoms of decomposition or secondary hæmorrhage appear to indicate extirpation; rupture and hæmorrhage into the abdominal cavity call for immediate laparotomy; if the hæmorrhage cease, and if a circumspect examination does not discover any tumour in the uterine region, we should wait. If there be a tumour in the tube, the ovum is not yet expelled and laparotomy is out of place. Recent hæmatocele is not to be operated on; a rise of temperature in the first week does not point to decomposition; nor should one proceed to operation because of resorption not taking place, until six weeks at least have elapsed.

*The Course of more-protracted Extra-uterine Pregnancies.*—H. A. v. GUÉRARD (Düsseldorf). Four cases in the fourth and sixth month; 3 operated recovered—the other died.

(1) II.-para, aged 33. Three years ago after last confinement, menopause eight to nine months, then copious hæmorrhage from vagina and rectum—followed by irregular menstruation and constant pain in right side. Extreme decrepitude and persistent constipation necessitated operation. To the right side a soft irregular tumour extended from navel deep into the pelvis; the smaller pelvis was entirely filled with masses of tumour.

*Treatment.*—Separation of the intestines, evacuation of the foetal sac, which contained a macerated foetus of the fourth to fifth month. The placenta could not be removed, as rupture

of the intestine was imminent. There was a sactosalpinx as large as the fist in Douglas' pouch, and the sac communicated with the foetal sac and the rectum. The vagina had already been opened, and the two cavities were now plugged from below and the foetal sac stitched up over the tampon. Fever, which had been present (39·5—40·6° C.), ceased after the operation; the woman was quite well a year afterwards.

(2) IV.-para, aged 33, believed herself to be in the fifth month of a normal pregnancy. Collapse after severe exertion. The foetal movements ceased, and examination under narcosis disclosed extra-uterine pregnancy in fifth month. Operation five days later. There was much blood and liquor amnii in the abdominal cavity. The foetal sac was ruptured and the placenta had been torn by the rupture. A recently dead foetus was extracted. The umbilical cord was ligatured close to the placenta. On account of the danger of further hæmorrhage to the collapsed patient the placenta could not be detached from the intestines. After opening the vagina, plugging from below, resection and stitching up of the foetal sac and closure of the abdomen, uninterrupted recovery.

(3) IV -para, with chronic gallstone colic. The extra-uterine foetal sac has some considerable time ago perforated the intestine. Constant and severe hæmorrhage from rectum necessitated an operation. Extirpation of the entire foetal sac, extensive laceration of the intestine, which was fitted and stitched up, ventrofixation, then cholecystotomy, more than 120 stones removed; uninterrupted recovery.

(4) III.-para, aged 25. Perforation into intestine; operation declined. After three months euphoria septic peritonitis from rupture of a small suppuration sac adhering to the intestine (old foetal sac). This case is an additional proof that advanced extra-uterine pregnancy should be operated on at once. Danger may return after complete euphoria. When total extirpation of the foetal sac is impossible, Guérard recommends plugging from below, resection and stitching up of the foetal sac, and closure of abdominal wound. The cavity is lessened in size, the recovery expedited, the external closure is better and there is less chance of putrefaction and decomposition on account of the free discharge of secretion, less irrigation is required, and there is surer protection from hernia by accurate stitching of the abdominal wall. Moreover, the convalescence of the patient is much pleasanter without the protracted pluggings and irrigations from the abdominal side. The tampons should consist of long narrow strips easily removed.

*On the Treatment of early-perished Extra-Uterine Pregnancy.*—J. Veit (Leyden). All agree that when the foetus is alive in the early months of an extra-uterine pregnancy, the extirpation of



the foetal sac should be undertaken at once to avoid the danger of a sudden rupture, but practically it is comparatively rare for this point to come in question, because the condition is seldom diagnosed (specimen shown). If the development of the foetal sac be ended by the death of the foetus the principles of treatment are not everywhere the same. In a valuable work Fehling has thoroughly discussed the indications for treatment. Pathologically it seems to Veit noteworthy that hæmatocele may co-exist with and be almost independent of tubal abortion, and also that rupture may occur after the death of the foetus (specimen shown); also that as various symptoms occur after the death of the foetus, it is only when the foetus is alive that rupture occurs unexpectedly; and that, as Fehling says, the diagnosis of tubal abortion, with or without hæmatocele, is only one of probability, and often all that can be certainly recognised is the presence of a tubal tumour.

When, in the early stages of ectopic pregnancy, the foetus is dead and there is well marked hæmatocele, Veit declares one should not operate; that the retention of a dead ovum in the tube, tubal abortion, with or without hæmatocele when the hæmatocele is solitary, should be treated like any other tubal disease, *i.e.*, that the indications for operation depend on the symptoms and scrupulous consideration thereof. Decision is not urgent. Not always, but much seldomer than has hitherto been accepted, is it necessary to operate.

E. Falk (Berlin). It is extremely difficult to decide whether a case is one of rupture, complete abortion with ejection of the ovum into the abdominal cavity, or incomplete with retention of the dead ovum in the tube, since even in the two latter cases there may be serious hæmorrhage into the abdominal cavity either from extensive lacerations of the abdominal end of the tube or from bleeding from the placental site. Unless hæmatocele be quickly formed we must operate, even for tubal abortion. Large hæmatoceles were formed in two of twelve cases during the last two years, and cured under expectative treatment; abdominal section had to be done in ten women, nine of whom recovered; in eight instances a large quantity of blood was free in the abdominal cavity. Five of these ten cases were abortions, five well marked rupture; in two there was laceration of the ampulla by the passage of the aborting ovum, and finally, in one a secondary abdominal, after rupture of a primary tubal pregnancy. In contrast, therefore, to pathological anatomy, it is not possible to distinguish clinically between tubal abortion and tubal rupture. But it is important to ascertain whether the effused blood has been, or probably will be, encapsuled. If so the operation should be delayed; if not, abdominal cœliotomy is indicated.

Frommel. Expectative treatment is right in all cases of tubal abortion, but even an exact examination will frequently fail to show whether the ovum is retained or not. Expectation is indicated by hæmatocele, and only to be abandoned on specific reasons.

v. Herff concurred, pointing out that, in the interest of the woman, any exhaustive examination was to be avoided directly after rupture.

Everke also advocated expectation.

Freund. To operate or not entirely depends on the possibility of an exact diagnosis. Examination so exact as Thorn desires is perilous. The thing to ascertain is whether the tube is ruptured or whether the case is merely abortion, as then one may count on the formation of an hæmatocele. Only when very infantile does a tube rupture; a normal tube is capable of great distension—if the ovum is not discharged. Myxomatous degeneration of the chorion may cause rupture, but unfortunately cannot be diagnosed. If in a woman with symptoms of internal hæmorrhage one meets with other evidence of infantilism, deficient inclination of the pelvis, badly developed mammæ, very prominent clitoris, &c., one may suppose a rupture, and should operate at once; in abortion, one may wait a considerable time.

Martin distrusted the possibility of diagnosis. He had met with free hæmorrhage through a small gap in the thick cortex of an hæmatocele after fourteen days' quiescence, and is therefore undecided whether expectation or operation is to be preferred in hæmatocele. It is only under clinical observation, when operation can be immediate, that a woman can be at all safe.

Fehling spoke of the danger of examination for the sake of diagnosis under anæsthesia in the patient's home. Each case of hæmatocele must be considered absolutely upon its own merits. Operation was sometimes the best treatment.

Thorn replying, by no means wished examination to be rough or forcible; but cautious investigation should decide whether abortion was complete or incomplete. If the tube exhibits a tumour one should operate—if not, wait; examination can do no harm in the latter case. The danger of ectopic gestation is over-estimated by practitioners.

*On Ovary Transplantation.*—Arndt (Berlin). In 1895 Knauer first transplanted the ovary, and maintained that the organ transplanted in rabbits into the broad ligament of the same side not only grew but discharged its function. In 1896 Grigorieff repeated the same experiment in twelve rabbits and obtained four pregnancies. At the close of 1897 Knauer also obtained a pregnancy ending normally in the birth of two young ones. These results contradicted all previous physiological ideas.

Grigorieff and Knauer, to facilitate confirmation, gave accurate descriptions of their proceeding. The former insisted that most careful asepsis was the chief condition for the success of the experiment. He secured the ovary in the peritoneal fold of the ligament, and his method is free from objection. Knauer's way of operating leaves reason to suppose that some remnant of the organ may have been left *in situ*.

Arndt has carried out fifteen experiments on nineteen animals; transplanting the ovaries to the broad ligaments eleven times, interchanging the ovaries of one rabbit with those of another, at the same time transplanting them to the broad ligament twice, and twice transplanting the ovaries of a rabbit to the broad ligaments of a cat and *vice versa*. All these experiments were followed by atrophy of the entire genitals. He killed and examined three rabbits and ascertained that there was atrophy of the ovaries. Though they may heal after transplantation in a short time—from six to twelve weeks—they waste away like the uterus and its cornua. (The atrophied genitals and ovaries were exhibited.)

Martin remarks that this additional evidence against the hopefulness of ovary transplantation supports Schmitz' statements as to the caution with which castration should be undertaken.

Knauer (*Centralblatt f. Gyn.*, 1898, 1257) upholds the scientific accuracy of the results arrived at by Grigorieff and himself.

J. J. M.

SUMMARY OF GYNÆCOLOGY, INCLUDING  
OBSTETRICS.

PROLAPSE OF THE OMENTUM AFTER VAGINAL EXTIRPATION OF THE UTERUS AND ADNEXA. By B. MEDANIC. *Centralblatt f. G.*, No. 15, 1898.

Four weeks after the discharge of the patient from Rokitansky's Clinic, prolapse of the omentum occurred without direct cause, and gave rise to dragging pains in the abdomen radiating from the gastric region. In the vaginal vault, in the place of the portio and in the left side of the transverse rather hard cicatrix, a smooth soft tumour was felt which, on the withdrawal of the examining finger, descended as far as the introitus and lay like a ribbon in the vagina, and to the naked eye, and microscopically, proved to be the omentum. An operation was determined on but proved unnecessary, as reduction took place spontaneously.

E. FRAENKEL (Breslau). *Ibid.*, No. 19.

Fraenkel, after a radical Doyen-Landau operation on a woman aged 44, for retroflexion, chronic hyperplastic metritis and perimetritis, fearing that ileus was coming on, removed the tampon forty-eight hours after the operation. Prolapse of the omentum occurred on the third day, but reduced spontaneously in the knee-elbow position. There was no infection of the peritoneum by the returned omentum, a fact attributed by Fraenkel to the agglutination of the intestines which took place round a gauze drain soon after its introduction.

PERITONEAL ADHESIONS. By P. RISSMANN (Hanover). *Centralblatt f. Gyn.*, No. 27, S. 705.

Rissmann's article is principally directed against the statement of ten Brink, that all gangrenous peritoneal scabs are due to bacterial adhesions. As early as 1896 Rissmann proved experimentally that peritoneal adhesions could be formed, though no bacteria could be discovered by cultivation or the microscope. The persistent sterility of agglutinations, nine and ten days after operation, that Rissmann then proved, he has recently demonstrated as soon as twenty-four hours after operation, and does not think that the old theory of infection is supported by ten Brink's work.

**INSTRUMENTAL LACERATION OF THE UTERUS IN SUPPOSITIOUS PREGNANCY—ABDOMINAL SECTION—RECOVERY.** By H. A. VON GUÉRARD (Düsseldorf). *Centralblatt f. Gyn.*, S. 708.

This remarkable case affected a secundipara of 27, who at the close of her imaginary pregnancy suffered from attacks of suffocation. The medical man in attendance introduced a bougie into the uterus to induce labour. Guérard found the woman in a fever with a distended abdomen; the uterus was only 8 cm. long, while the bougie entered for 20 cm. He excluded pregnancy, and diagnosed perforation of the uterus. Laparotomy disclosed tuberculous peritonitis with great ascites, which, with premature climacteric, had suggested gravidity. A laceration in the left side of the uterus was closed by continued suture, and the woman had an uninterrupted recovery.

**INSTRUMENTAL PERFORATION OF THE UTERUS.** By H. QUEISNER (Bromberg). *Centralblatt f. Gyn.*, S. 712.

In a woman of 42, with fixed retroflexion and severe flooding, after detaching the uterus in Schultze's way, Queisner introduced a sound, and afterwards washed out the cavity through a Fritz-Bozemann catheter. Although no great pressure was used the catheter perforated the uterus, but the accident had no untoward result, and he believes the instrument must have accidentally hit on a spot denuded of peritoneum during the forcible separation of the adhesions.

**ON THE RELATION BETWEEN THE THYROID GLAND AND THE FEMALE SEXUAL ORGANS.** By G. N. DE VOOGT (Arnheim). *Centralblatt f. Gyn.*, S. 713.

The author thinks the following case upsets the theory of connection between the thyroid and female genitals alleged by Freund and others. A maid of 15 with a large bronchocele underwent laparotomy for an ovarian dermoid cyst. Menorrhagia, which had been irregular and profuse, ceased after the operation, but the bronchocele remained unaltered for three and a half months. In Voogt's opinion, if Freund's view were correct, the bronchocele should have disappeared after the extirpation of the ovarian tumour.

**THE TREATMENT OF INJURIES TO THE URETERS.** By R. FUTH (Metz). *Centralblatt f. Gyn.*, S. 729.

If a ureter be injured during laparotomy one should always, in the first instance, endeavour to lead it into the bladder; if this proves impossible, even when the bladder is freed and displaced, the kidney must nearly always be lost. Our only choice is primary extirpation of the kidney, engrafting of the

ureter in the intestine, or ligature of the central end of the ureter with the necessity, if uræmia supervenes, of making a fistula into the pelvis of the kidney or removing the organ by a secondary operation. In operating on a woman of 49 with a large uterine myoma and an ovarian cyst twice the size of a man's head, the two tumours weighing together 40 lbs., the author accidentally took away 10-12 cm. of the right ureter. He ligatured the proximal end of the ureter. Except for a slight fever on the third, and from the nineteenth to twenty-second day, the course of recovery was undisturbed; the hydro-nephrosis of the right kidney gave no trouble, so that the patient was discharged six weeks after the operation without further interference. Futh detected in the right hypochondrium, seven months later, a swelling as large as a child's head, of which the woman had been unaware.

**TWO CASES OF SECTIO CÆSAREA CONSERVATIVA, BY INCISION IN THE FUNDUS.** By RIEDINGER (Brunn). *Centralblatt f. Gyn.*, S. 762.

Both cases were successful. In a subsequent examination of the first, Riedinger remarked that the uterus was elevated as much as six finger breadths above the pelvis and was adherent, and this suggested to him a doubt whether the fundal incision might not often result in an unintended ventrofixation. In another case fistula in the abdominal wall occurred leading into the uterus. Similar fistulæ from the fundus into the intestines might have been most dangerous, and he awaits the experience of others as to the value of the fundal incision.

**THE COMBINATION OF THE TRANSVERSE FUNDAL INCISION WITH RESECTION OF THE TUBES.** By J. HALBON (Vienna). *Centralblatt f. Gyn.*, S. 815.

On a II.-para of 31 with generally contracted rickety pelvis, who had three years previously undergone a conservative Cæsarian section, Schauta performed Cæsarian section by Fritsch's transverse incision, with the addition of resection of the tubes to ensure sterility. In so doing he followed Neumann's suggestion, cutting out a wedge of uterine substance containing the pars intermedialis on either side. Uninterrupted recovery.

**HYDROCELE FEMINÆ. HYDROCELE OF THE ROUND LIGAMENT OF THE UTERUS.** By FERD. NOLL (Hanau). *Centralblatt f. Gyn.*, S. 765.

The author gives three cases of cysts of the round ligament which appeared in the form of inguinal hernia and were happily treated by operation. The first case was possibly a hydrocele

of the processus vaginalis peritonei; both the others he considered true hydrocele peritonealis saccata. He quotes Klob Weber and Kölliker upon the origin of this so-called hydrocele, saccata vel cystica, and draws attention to the remarkable fact that while hydrocele is generally found in childhood in males, it is seldom detected till the riper years in women.

**EXTRA-UTERINE PREGNANCY NEARLY TO TERM—ABDOMINAL SECTION—EXTRACTION OF LIVE CHILD—RECOVERY OF MOTHER.** By FR. NEUGEBAUER (Warsaw). *Centralblatt f. Gyn.*, 1898, S. 785.

Multipara, aged 36. A mature foetus in the abdomen, no trace of ovisac, the placenta on the posterior wall of the bladder. Tamponnade of the placental site and abdominal suture. The child lived nine hours. The mother was discharged after two months with an abdominal fistula.

Neugebauer supposes that the pregnancy was originally tubal, and that after rupture the child continued to develop in the abdomen. In seventy-nine published cases of operation for ectopic pregnancy the ovisac had been ruptured in forty-five. Of the mothers, forty recovered. The question whether one should operate as soon as possible, or wait till the child is dead, and in the latter case operate immediately or wait further till the placenta has perished, is for Neugebauer not yet decided. He considers laparotomy to obtain a living ectopically developed foetus the most dangerous of all obstetric operations. This view is opposed to that of most German obstetricians, who consider every extra-uterine pregnancy as a malignant new growth (*Werth*) to be removed in any stage of gestation.

WALTER WREKE (Hanover) relates a similar case of a forty-year VII.-para with a ruptured tubal pregnancy in the sixth to seventh month. The child was alive, but died four hours after laparotomy. The placenta was not removed for fear of hæmorrhage, but was tamponned, and when it had been got rid of six weeks later in a putrid condition under feverish symptoms, the mother recovered. A ventral hernia appeared later, but was remedied by a second laparotomy combined with a ventrofixation on account of commencing prolapse of the vagina complicated by retroflexion.

**TUSSIS UTERINA AND SIMILAR REFLEX SYMPTOMS.** By O. SCHÄFFER (Heidelberg). *Centralblatt f. Gyn.*, S. 819.

Schäffer observed that a woman whom he plugged for menorrhagia had a short dry cough each time the anterior or posterior vaginal vault was touched; the patient was extremely neurasthenic. In predisposed subjects, this nervous reflex

cough may be caused by vaginal examination or by pathological processes in the broad ligament, or especially in Douglas' pouch; it is due to excitation of the sensory terminations of the inferior hypogastric and spermatic plexus, the middle and inferior hæmorrhoidal nerves, and their ganglia in the broad ligament. In such cases, when the sexual affection seems to be associated with neuropathic susceptibility, local treatment is rapidly beneficial.

ERRORS IN THE DIAGNOSIS OF ABDOMINAL TUMOURS. By H. SCHRÖDER (Bonn). *Centralblatt f. Gyn.*, S. 1124.

(1) A woman of 44 had suffered from an abdominal tumour for seven years; it had been punctured and had discharged ten litres of fluid. Her abdomen was full of knotty tumours supposed to be bilateral multilocular ovarian cysts, but proving on operation to be a cystic tumour of the liver. She died in collapse. (2) A hard painful tumour had existed for five years in the right ileo-cæcal region of a woman of 42. It was diagnosed as a malignant ovarian tumour, but turned out to be a carcinoma of the gall bladder, and was amputated by the Paquelin cautery. She recovered. Schröder discusses the grounds which led to the mistake.

[J. MAYER (Lemberg), relates in the *Wiener k. Wchschrft.* that a spherical tumour in the right abdomen taken for an ovarian cystoma proved on operation to be a dermoid cyst (containing a pea-soupy fluid and black hair), attached by a short pedicle to the mesentery underneath the right angle of the colon.]

NEW FORCEPS-METHOD FOR ABDOMINAL PANHYSTERECTOMY. By D. STAPLER (S. Paulo). *Centralblatt f. Gyn.*, S. 1153.

The author is a warm supporter of the compression forceps in panhysterectomy, but prefers the abdominal to the vaginal method. To allow the abdominal wound to be closed he has designed new forceps to be applied from the abdominal side and withdrawn from the vagina. They are formed of parallel elastic steel rods united by a lock behind and carrying a toothed spring catch in front. The rods are grooved lengthwise as shown in the illustrations, and are 10 to 15 cm. long by 0.6 to 0.7 cm. broad. After the uterus is drawn forwards and the vagina opened, the ligaments and uterine vessels are compressed by the forceps, the catches of which are turned down into the vagina. The uterus is then extirpated and the abdominal wound sutured. The forceps are removed *per vaginam* after forty-eight hours.



MASSAGE IN POST-OPERATIVE ILEUS. By H. HÄBERLIN (Zurich). *Centralblatt f. Gyn.*, S. 1164.

A woman of 33, on whom for a fixed retroflexion the author detached the adnexa and performed a ventrofixation, had attacks of colic. A soft resistance could be felt in Douglas' pouch. Flatus was passed after forced massage of that resistance between a finger in the rectum and the other hand in the left groin; and after repetition of the massage on the following day both gas and fæces were discharged, after which the patient made a normal recovery.

Häberlin considers the case one of post-operative ileus due to incarceration of a loop of intestine in Douglas' pouch, and for this accident recommends massage, which he found very effective in a similar previous case. After cœliotomy he always tries to stimulate intestinal peristalsis so as to prevent adhesions, and very often, even after intestinal operations, applies massage to the whole abdomen. The alleged danger of such massage when there is ileus (hæmorrhage, pain, rupture of adhesions) is, he thinks, exaggerated, and he believes that adhesions of intestine in Douglas' pouch, or to the pedicle, or even between two loops of intestine, may be loosened by this method. In commencing adhesions there is nothing to prevent the use of ordinary purgatives, clysters or inflation of the intestines.

ON THE SENILE CHANGES IN THE FALLOPIAN TUBES. By SCHNAPER (New York). *Centralblatt f. Gyn.*, S. 1201.

Examination of twenty cases between the ages of 47 and 90 has led the author to consider that, as regards the partial loss of the superficial epithelium, the more or less considerable increase in connective tissue, and the partial or total obliteration of the canals, the senile changes in the Fallopian tubes are analogous to those in the vagina (kolpitis senilis). The muscular tissue and adventitia of the vessels of the tubes also exhibit processes of growth and subsequent shrinking. The connective tissue in all these layers of the tubes is developed to an extent that makes the exact delimitation of these layers from one another impossible.

WENDELER (*ibid.*, S. 1386), criticising the above, says that Schnaper has not always distinguished between the normal and pathological changes in the senile tubes.

SCARLATINA AFTER LAPAROTOMY AND IN CHILDBED. By SIPPEL (Frankfort). *Centralblatt f. Gyn.*, 1898, S. 1204.

A virgin aged 22 recovered from scarlet fever, which came on three days after an operation for an ovarian tumour. As the patient must have been infected before the operation, Sippel

concludes that one may fearlessly perform an operation that does not admit of delay (*e.g.*, herniotomy) on a patient suffering from uncomplicated scarlet fever, and further, that a woman so suffering may be confined, or a puerperal woman have scarlet fever, without the genitals being infected. These statements, however, refer to simple scarlatina, not to the traumatic form of the disease. The question is considered in the *British Medical Journal*, p. 1897, ii., 1898.

THE OPERATIVE STERILISATION OF WOMEN. By ROSE (Hamburg). *Centralblatt f. Gyn.*, S. 1225.

For this end Rose recommends the wedge-shaped excision of the tubes out of the uterus. He has as yet had no opportunity of trying this method of preventing conception, but when removing the tubes he invariably separates the uterine ends in this way. The method is a protection against subsequent gonorrhœal infection and its extension to the peritoneum (*v. ibid.*, S. 815 supra).

ON TUBAL MENSTRUATION. By H. THOMSON (Odessa). *Centralblatt f. Gyn.*, S. 1227.

It is questionable whether any menstruation takes place in the tubes. Only three recorded cases are free from objection; to these Thomson adds two personal observations, in each of which there were fistulæ in the abdominal wall communicating with the tubes, and through them a bloody discharge at the menstrual periods. Thomson considers it proved that during the menses a process similar to that in the uterus takes place in the tubes.

ON THE SURGERY OF LARGE FIBROMYOMATA OF THE UTERUS. By WOLFRAM (Riga). *Centralblatt f. Gyn.*, S. 1228.

Wolfram removed a myoma weighing thirty-five pounds from a woman of 50, in wretched condition, by laparotomy, without applying a single ligature to pedicle or blood vessels. Five large and ten small compression forceps were led into the lower angle of the wound, and removed on the eighth day. The operation lasted forty minutes—the recovery three weeks.

ON THE TREATMENT OF CHRONIC PUERPERAL INVERSION OF THE UTERUS. By ELIS ESSEN-MÖLLER (Lund). *Centralblatt f. Gyn.*, 1898, S. 1249.

In a case of chronic inversion of the uterus of five and a-half years' standing in a primipara, as reduction was still impossible after dividing the posterior fornix transversely and the posterior

wall of the uterus longitudinally after Küstner's method, Borelius, prolonging the incision, split the entire wall of the uterus from the fundus to the transverse incision in the vaginal vault, folded the two sides of the uterine wall forward, and stitched them together by two layers of sutures; the uterus still lay in the vagina with the fundus downwards. The uterus was then returned into its normal position in the peritoneal cavity through the transverse incision in the vagina, and the pouch of Douglas and vagina sewn up. The author thinks this plan of Borelius, as well as that of Küstner, should always be tried in chronic puerperal inversion before proceeding to panhysterectomy.

**AUTOMATIC ACTION OF THE EMBRYONAL HEART THREE HOURS AFTER DEATH.** By NEUGEBAUER. *Centralblatt f. Gyn.*, 1898, S. 1281.

In a fourteen-weeks embryo of extra-uterine development removed by vaginal coeliotomy, embryotomy, and dismemberment, Neugebauer found that the heart was beating automatically and rhythmically, and this action continued for more than three hours after death. He finds only three reported cases (Pflüger, Rawitz and Veit) of the action of the human heart persisting after death.

**EXTIRPATION OF THE SPLEEN DURING PREGNANCY, ON ACCOUNT OF TRAUMATIC RUPTURE.** By SAVOR (Vienna). *Centralblatt f. Gyn.*, 1898, S. 1305.

A V.-para of 31 in the sixth month of pregnancy was admitted into Chrobak's clinic after a drunken man had trodden on the left side of her abdomen; on the following day there were signs of internal hæmorrhage, and laparotomy disclosed a rupture of the spleen as the source of the bleeding. Savor extirpated the spleen and the woman made an excellent recovery and was spontaneously delivered of a healthy child at full term. The spleen was soft, pale, and enlarged—a condition referred by Savor to a puerperal process. Savor tabulates eight reported cases of removal of the spleen for injury, five recovering. In the present instance the operation had no bad effects on mother or child.

**CONCERNING THE REFLEXA-PLACENTA.** By CRAMER (Bonn). *Centralblatt f. Gyn.*, 1898, S. 1329.

In an ovum aborted at the beginning of the third month, the placenta had developed in the decidua reflexa for the most part laterally, not, as in cases hitherto reported, in the advanced flap of the reflexa of placenta prævia. Cramer thinks that the

excessive development of this reflexa-placenta may have been the cause of the abortion. The cause of this excessive development in the present case Cramer leaves undecided, as the embryo was detached and the locus of the insertion of the cord could not be determined.

ON THE TREATMENT OF ULCERATED CERVICAL CARCINOMA BY MEANS OF CONSTANT WARMTH. By WESTERMARK (Stockholm). *Centralblatt f. Gyn.*, 1898, S. 1335.

Westermarck has adapted the method recommended by Welander for chancrous ulcers, psoriasis, favus, &c., to inoperable uterine carcinoma. He places in the hollow in the cancer, after the latter has been scraped out, a spiral silver tube, which is fed with a regulated stream of hot water. The temperature should be as hot as can be borne—42-44°C. is generally high enough; the application as a rule is continued for forty-eight hours. He has tried this method in seven cases; the result was successful in so far that the bleeding and ichor ceased and the patients soon improved. In one case only did the ulceration heal, but there was still some infiltration of the parametrium when the patient was discharged.

EXCISIO VAGINALIS MUCOSÆ UTERI—ENDOMETRECTOMY. By A. DUHRSSSEN (Berlin). *Centralblatt f. Gyn.*, 1898, S. 1353.

Casati has described under the name of endometrectomy an operation for the relief of hæmorrhagic endometritis, in which, after laparotomy and opening the uterus, he excises the whole of the uterine mucosa with a layer of the muscular parenchyma. Dührssen has performed this excision by the vagina in four cases. After opening the anterior vaginal vault and exposing the anterior wall of the cervix, he detached the peritoneum from the anterior wall of the corpus (extra-peritoneal method), or divided the anterior fold of peritoneum (intra-peritoneal method), then divided the anterior wall of the uterus as far as the fundus, supplemented this incision by a transverse one, and stripped off the uterine and cervical mucosa. The uterus was closed by from three to six circular sutures passing round the cavum below the wounded surface.

The operation, which is further explained by illustrations, is indicated in cases of hæmorrhagic endometritis in which, all other methods failing, extirpation of the uterus would otherwise be necessarily suggested.

SYMPHYSIOTOMY AND CÆSARIAN SECTION. By Professor CHARLES (Liege). *Journal des Accouchements*, 1898, p. 576.

In a critique of Pinard's statistics, Professor Charles, while agreeing with the motto Pinard has had inscribed on the walls

of the Clinique Baudeloque, "No embryotomy on the living child," as a counsel of perfection, points out that at the Moscow Congress Küstner limited symphysiotomy to Lying-in Hospitals, Olshausen preferred the Cæsarian operation, La Torre advocated Walcher's position (which he attributed to Scipio Mercurio), Durante insisted on the danger to the soft parts, and Zweifel alone was enthusiastic in favour of symphysiotomy.

Pinard rejoices that whatever course is recommended no one now advocates the destruction of the child; as a matter of fact no one ever did so, though most obstetricians believe that under certain universally recognised and very distressing conditions it may be right or necessary to destroy the child in order to save the mother, and though Pinard declares that the necessity no longer exists, many agree with Olshausen in preferring Cæsarian section to symphysiotomy as being less dangerous and simpler. In 10 Cæsarian sections Charles lost no mother or child, while 13 symphysiotomies were fatal to 2 mothers and 1 child; and Pinard, in 90 operations for the enlargement of the pelvis during the years 1892-1897, lost 10 mothers and 12 children. Charles holds that even now embryotomy of the living child is a hard necessity occasionally imposed on the practitioner. The performance of either symphysiotomy or Cæsarian section without the consent of the woman herself is a very questionable proceeding, and one dangerous for the operator. Conditions outside hospitals are often unfavourable for the operation, and many women decline it. One cannot allow the woman to become exhausted while we wait for the death of the child, or make the pretence that the foetal heart has ceased to beat. (*Cf. B. M. J. Epitome*, January 7, 1899.)

REYNOLDS (*American Journal of Obstetrics*, June, 1898) in an article on Cæsarian section as a means of reducing foetal mortality, points out that at the Boston Maternity there have in twelve years been 22 Cæsarian sections without the loss of a single mother or child.

RECOVERY FROM A PSYCHOSIS ASSOCIATED WITH A UTERINE MYOMA AFTER TOTAL VAGINAL EXTIRPATION OF THE INTERNAL GENITALS. By ELZHOLOZ (Vienna). *Wiener klin. Wöchenschrift*, No. 29, 1898.

A spinster, aged 40, with symptoms of anæmia and dysmenorrhœa, became affected with severe melancholia which resulted in attempted self-destruction. After temporary recovery she had severe uterine hæmorrhage accompanied by great mental depression. To this succeeded brief episodes of hallucination with sudden attacks of terror, and with another attempt at suicide. After the operation above mentioned she

recovered bodily and mentally. The full history of this case is preceded by a summary of the literature dealing with the connection between gynæcological and mental disease.

**PUERPERAL TETANUS.** By W. KUHNAU (Breslau). *Berlin klin. Wochenschrift*, No. 29.

The presence of the *B. tetani* in the puerperal endometrium has as yet been demonstrated in 3 cases only. The following case is therefore of great interest. A patient of the author's, aged 42, after a vaginal injection six days after normal labour, was seized by tetanus, opisthotonos, spasms of the muscles of the extremities, and of those of the larynx and pharynx, repeated spastic contraction of the glottis, during one of which she expired. In the network of the endometric tissue *B. tetani* was found with a large variety of others, and the tetanic poison was detected in the blood and spleen. The infection was a mixed one of the bacteria of putrid decomposition, septic germs and *B. tetani*.

**TETANUS AFTER ABDOMINAL OPERATION.** By KOCH. *Deutsche Zeits. f. Chir.*, June, 1898.

A patient, aged 42, was attacked by tetanus six days after myotomy and died two days later. In a small abscess in the stump was found a knot of catgut in process of absorption. Fragments of this catgut induced tetanus in two mice. The author looks upon the catgut as the source of infection, though it had been sterilised by boiling and kept in oil of juniper.

**CONSTIPATIO MUSCULARIS S. TRAUMATICA MULIERUM CHRONICA.** By PINCUS (Dänzig). *Virchow's Archiv*, Bd. cliii., Heft 2.

In half the cases of chronic constipation in women, Pincus believes that the cause may be found in a weakening of the levator ani (diaphragma pelvis) due to laceration and cicatrisation, or to ischæmic over-tension and relaxation from long detention of the foetal head in the small pelvis. Under such conditions, when the levator ani contracts, narrowing of the vagina does not take place and, upon straining, the perinæum protrudes forwards; one may often detect with the finger in the vagina broad gaps in the muscular diaphragm. By reason of its distension the levator ani may act vicariously for the sphincter (continentia alvi with a genital cloaca). Imperfect function of the abdominal pressure aids in bringing about a chronic constipation. Deficient innervation of the intestine, &c. are secondary complications.

SARCOMA UTERI. By O. v. FRANQUE (Wurzburg). *Münchener med. Wochenschr.*, No. 41.

In the last ten years 3,366 cases seen at the Wurzburg gynæcological clinic included 304 uterine carcinomata [35 affecting the corpus], and only 16 sarcomata : sarcoma seems thus to be twenty times as uncommon as carcinoma, and twice as rare as carcinoma of the corpus uteri.

Only 2 of the sarcomata—one of the corpus and one of the cervix—certainly originated from the mucous membrane : in a polypoid tumour of the fundus the origin was doubtful. All of the 13 parietal sarcomata developed like myomata, 5 were distinctly submucous (2 polypi) or interstitial submucous, while there was only one interstitial subserous, one interstitial intra-ligamentary and one entirely subserous.

Two tumours were primary, 5 certainly, and 6 more or less probably, to be referred to pre-existing fibromyomata ; the derivation of the sarcomatous elements from the muscular fibres could not be demonstrated in any case, but was probable in 2, and in these and 3 others their derivation from the interstitial tissue was indubitable. In 6 cases the diagnosis before operation had been fibromyoma. One woman was 40, another 34, and another only 27, but the average of the remaining 13 was 51·6 years ; 6 were nullipara ; 10 had from 2 to 11 children (average 6·5.)

PULMONARY METASTASES IN DECIDUOMA MALIGNA. By Dr. JULIUS NEUMANN. *Münchener med. Wochenschrift*, 1898, No. 49, 158.

In the Vienna Medical Club, Dr. Julius Neumann lately gave an interesting address and demonstration on the above subject. A woman after bearing a living child was subject to persistent hæmorrhage, on account of which the uterus was repeatedly curetted. From examination of the *débris* removed Neumann made a diagnosis of malignant new growth. The uterus was extirpated four months after delivery, but the woman died two and a-half months later from metastases. There were numerous round knots, up to the size of an apple, in the lungs, partly superficial, partly in the deeper parenchyma, in colour ranging from grayish to brownish red ; some of the masses were necrotic in the centre, others breaking down in suppuration. After discussing the symptomatology and diagnosis of the disease (on the basis of his own experience and the statements of Eiermann, Schmorl and others), and the success of early extirpation of the uterus, Neumann pointed out that hæmoptysis occasionally occurs during pregnancy, though neither tuberculosis, heart disease or other cause for it can be detected.

He had met with such hæmorrhage in two cases in the early months of hydatid mole, but otherwise normal, pregnancy, the patients feeling perfectly well. After a few weeks the hæmoptysis ceased and the women remained quite healthy. It is not impossible that in such cases there may have been embolic infarcts due to the escape of placental giant cells such as Schmorl has described.

*The British Medical Journal* (Epitome, Jan. 14, 1899) gives an abstract of a case in Treub's Clinic, in which acute tuberculosis was simulated by deciduoma malignum. The case was quoted by Driessen in a discussion on a paper of Veit's "On Mola Hydatidosa and Deciduoma Malignum" (*vide Centralblatt f. Gyn.*, 1898, S. 1,006 and 506).

**A NEW METHOD OF TREATING INFLAMMATORY AND ESPECIALLY EXUDATIVE PELVIC AFFECTIONS BY MECHANICAL PRESSURE.**

By L. PINCUS (Dantzig). *Zeitschrift f. Geb. u. Gyn.*, xxxix., 1.

The method warmly recommended by Pincus in this article consists in recumbency on an inclined plane, combined with compression of the pelvic organs from the exterior and also from the vagina. For inflammatory affections of the adnexa in the first place Pincus desires non-operative treatment. The conditions necessary for unburdening the pelvic organs are completely fulfilled by *Positio in plano inclinaticum compressione* (*Belastungs-lagerung*). The inclined plane is arranged by raising the foot end of the bed 15—35 cm.; the external compression by elastic bandages, adhesive plaster, a bag filled with shot or moist potters' clay from 1 to 5 kg. weight. The internal compression Pincus obtains with Gariel's air pessary, a colpeurynter, or preferably by Bozemann's columnization or graded tamponnade; gynæcological massage is also recommended as an auxiliary means in chronic disease. He indicates as the peculiar field for this treatment chronic pelvic exudations (*pelio cellulitis* [*parametritis*], *pelio peritonitis* and tubal affections), but it has in his experience been of great service in many acute inflammations. In irritable conditions of the peritoneum it is contra-indicated.

**HYPEREMESIS GRAVIDARUM.** By GUSTAV KLEIN (Munich). *Zeitschrift f. Geb. u. Gyn.*, xxxix. 1.

Klein agrees with Kaltenbach in restricting this term to cases in which the vomiting is directly due to pregnancy and the patient's nourishment suffers. He admits as cause not only hysteria (Kaltenbach) but also a general neurosis. The course he divides into three stages: (1) Vomiting only after food; (2) vomiting independent of ingestion; (3) vomit contains blood;



fever, syncope, delirium, death. In the first and second stages dietetic treatment suffices, *i.e.*, mental and bodily repose and diminished nourishment; if this does not succeed treatment in an asylum must be suggested and perhaps carried out. Local and suggestive treatment are superfluous. In the third stage the induction of premature labour must be considered. (*Cf.* Bacon, *A.J.M.S.*, June, 1898.)

ON THE OCCURRENCE AND SIGNIFICANCE OF POST-NATAL TRANSFUSION. By RUDOLF KÖSTLING (Dantzic). *Zeitschrift f. Geb. u. Gyn.*, xxxix., 1.

By post-natal transfusion the author understands, as did Schücking, the passage of blood from the placenta to the fœtus after birth. The proceeding is of particular importance in deciding when the cord should be divided. In the present work Köstling has collected the literature of the subject, and also reports his own researches, which were directed to the weight of the child from the moment it was born till the severing of the cord, and to determining the amount of blood which flowed away when the cord was separated immediately. This amount in I.-paræ Köstling found to be from 0 to 130 g., measured by the increase in the weight of the child during the third stage of labour, and in multiparæ from 0 to 80 g. If the cord were divided immediately the child was born, in primiparæ he collected from it from 10 to 152 g.; in multiparæ from 5 to 115 g. As cause of post-natal transfusion he takes the contractions of the uterus during labour, which press the blood out of the maternal into the fœtal placenta and so lead to the transfusion. The statement made by some authors, that children whose cords are prematurely divided are inferior in appearance and general condition, he could only partially confirm—indeed in some cases the balance was in their favour. He considers that pulsation should have ceased in the cord before it is divided, and characterises the use of Credé's grip, the elevation of the placenta, the stroking down of the cord, and such like proceedings as superfluous.

DELIVERIES BY FORCEPS IN THE PROVINCIAL INSTITUTE FOR MIDWIVES AT DANTZIG DURING THE YEARS 1887—97. By SEMON (Dantzic). *Zeitschrift f. Geb. u. Gyn.*, xxxix., 1.

A report of 123 cases of delivery by forceps, added to which is a critical review of the relevant literature and a comprehensive survey of present opinion on the use of the forceps. Semon's practice seems to be the usual one; he used the high forceps in 19 cases = 14.6 per cent. of the whole, a rather high percentage—and the results were not very brilliant. Three times there was

serious illness in the subsequent child-bed, five times fever; and one patient with heart disease died; the other ten had no fever. These results point to a limitation rather than an extension of the field for the high forceps.

THE OPERATIVE TREATMENT OF TUBERCULAR PERITONITIS.  
By MERKEL (Nurnberg). *Zeitschrift f. Geb. u. Gyn.*, xxxix., 1.

A report of two private cases cured by laparotomy and in good health for many years afterwards. (1) F., 30. Tubercular infiltration of the apex of the right lung and ascites, encysted and free. No bacilli detected in the peritoneal tubercles. (2) W., 49, luetic from her husband; free ascites; tubercle bacilli in peritoneal nodules.

In each case Merkel looks upon the lung affection, or perhaps infected bronchial glands, as the starting point of the peritoneal tuberculosis. A study of the literature disclosed the remarkable fact that more female clinical cases are recorded than male—while the anatomists indicate three times as many men as women. Merkel believes laparotomy to be the only proper treatment; by it 65 to 70 per cent. of cases have been cured up to the present. The dry form of peritonitis is more favourable than ascites—the suppurative form the worst. Of the many and various attempts to explain the puzzling success of laparotomy Merkel inclines to that which supposes that the stimulus to which the peritoneum is subjected in opening the abdomen acts as curative agent, and refers to the action of congestive hyperæmia of Bier in tuberculosis of the limbs.

CHORION-EPITHELIOMA. By MARCHAND. *Centralblatt f. Gyn.*, 1898, No. 31.

After controversial criticism of the recent work of Veit and Pfannenstiël on deciduoma maligna, Marchand declares that to him it is of no importance that the new growth is variously considered as belonging to the sarcomata or carcinomata. He prefers to call it chorion-epithelioma, as he attaches most importance to the proof that it originates from the villi of the chorion. He adheres steadfastly to the ectodermal nature of Langhan's layer of cells.

TWO NEW CASES OF MALIGNANT CHORION-EPITHELIOMA. By MARCHAND. *Zeitschrift f. Geb. u. Gyn.*, xxxix., 2.

In this important work Marchand endeavours to reconcile the hitherto divergent views on the nature and origin of deciduoma maligna. As is well known, he considers this new growth to be epithelial and composed from the syncytium of the chorionic villi and elements of Langhan's layer of cells, and

that the syncytium is of maternal, of uterine, the cellular layer of foetal, origin. Most recent writers consider that the syncytium is also of foetal origin, and Marchand admits that a series of weighty facts are in favour of this view. He gives a comprehensive report of all that has been published on the subject since 1895, then discusses recent works on the histology of the hydatid mole, and describes two cases of chorion-epithelioma observed by himself.

(1) A woman of 42 expelled an hydatid mole, and after three weeks suffered from hæmorrhage so severe and so repeated as to lead to total extirpation of the uterus, from which she recovered. Microscopic examination showed that there was a commencing malignant tumour, which was connected with the intrusion of certain villi into a vein at the seat of the placenta. The development of the new growth originated from the epithelial investment of the chorionic villi.

(2) The second case was that of a girl of 22, delivered in the fourth month of an hydatid mole. Examination and the curette proved that there was a malignant new growth, too far advanced for operation, and this proved fatal two months later. Metastases were found in the vagina and retro-peritoneal glands and in the lungs. This case was also one of chorionic epithelioma but quite atypical in its structure.

Marchand now distinguishes two principal forms of malignant chorion-epithelioma, one typical, one atypical. In the former the character of the chorionic epithelium remains as it was in the first period of pregnancy, in the latter epithelium is only seen as isolated cells. Transition forms between these two may be met with. The atypic form may show histological resemblances to sarcomatous or carcinomatous tumours, the typical form does not. The only analogue Marchand can find is the chorionic epithelium in its early stages. He therefore considers that the only proper name for this new growth is "malignant tumour of the chorionic epithelium," or chorion-epithelioma malignum s. destruens.

J. J. M.

DIPHTHERIA OF THE VULVA. By J. WHITRIDGE WILLIAMS, M.D. (Johns Hopkins University). *Amer. Jour. of Obst.*

Dr. Williams first draws attention to the frequency of so-called diphtheritic endometritis or vaginitis, and to the extreme rarity of cases in which really the bacillus diphtheriæ is the cause of the grey slough. It is not right to speak of puerperal diphtheria unless the presence of the diphtheria bacilli has been demonstrated in the membranes. After reference to two cases of true puerperal diphtheria reported by Nisot and Bumm, the author reports one which had come under his own observation. On the twenty-third day of the puerperium he was called to see a patient

with the following history. Labour very easy; got up on the fifth day, but on the twelfth day there were pain and swelling of the vulva, and on the following day she was unable to urinate. No further symptoms, but during the next week the baby and another child died of diphtheria. On examination, the inguinal glands were found enlarged and sensitive. The entire vulva was red, hard, and greatly swollen. The inner surface of the labia, both majora and minora, was covered by a greyish white, firmly adherent membrane, densely adherent, and which left a raw, bleeding surface when removed by dissecting forceps. The membrane extended only a short distance up the vagina. Bacteriological examination showed the presence of typical Klebs-Löffler bacilli. It is undoubtedly the fact that the majority of so-called diphtheritic membranes of the vulva, vagina, &c., do not contain the bacillus diphtheriæ, but are due to streptococci. This patient was treated with anti-toxin and the genitals kept clean with boracic acid lotion. In a few days all trace of the disease had disappeared. Several weeks later more or less paralysis of both legs made its appearance, thus doubly confirming the diagnosis. The mother was probably infected by the physician attending the case. It need hardly be pointed out how the precision in diagnosis bears upon the treatment.

CARCINOMA DEVELOPED FROM THE WALL OF A DERMOID CYST OF THE OVARY. By J. G. CLARK, M.D., Johns Hopkins Hospital. *Am. J. of Obs.*

The author first gives a summary of eight cases which have been reported of carcinoma of dermoid cysts, seven of which have been of the epidermal type, and only one glandular. The pathology of the case reported by the author is that of an epidermal type. The tumour was removed from a woman aged 29, by the late Prof. Breisky, on May 29, 1885; at the same time a metastatic nodule about the size of a walnut was removed from the left axilla. The patient recovered, but her subsequent history is not known. Specimen :—Combined cystic and solid tumour of the left ovary the size of a new-born child's head. The general outline of the ovary is preserved, the inner pole being occupied by the solid, the outer by the cystic tumour. The consistence of the solid tumour is hard, resistant, and on section with the razor shows a uniform gristly white appearance, with fine, indistinct fibrillary lines interlacing through its substance. It lies within the cyst wall. The interior of the cyst wall is clad with wrinkled epidermis which presents the typical appearance of the washerwoman's skin. Where the cyst wall has the most characteristic epidermal appearance is a growth of

short black hairs. At one point is a small, isolated, wart-like projection covered with hairs. No teeth, bone, or cartilaginous structures are to be found. The wall is thin beyond the limits of the solid tumour.

On microscopic examination: in the epidermal area, *i.e.*, in the greater part of the cyst wall, and in the warty growth, the epithelium is normal and shows no tendency to penetrate the underlying tissues. Sections taken at the junction of the cyst wall with the tumour show the transition of the cells of the epithelial layer into cancerous tissue. The regular layers are no longer preserved, the cells being heaped up in a confused mass, and are all of the large, flat variety, with large oval nuclei and deeply staining protoplasm. In the tissues beneath the point where the atypical appearance is first noted there is an inflammatory reaction. Approaching the main body of the new growth, the epithelium loses all semblance to an orderly arrangement and begins to encroach upon the underlying tissue, in some places forming well marked cancerous projections with here and there a pearly body, and still further towards the centre the fibrous tissue of the cyst wall becomes more and more involved, until it is finally almost entirely replaced by the cancerous process. At many points the epithelium assumes a more or less concentric, laminated arrangement which strongly suggests pearly bodies. The epithelial cells are enclosed in large connective tissue alveoli, in which they are closely packed one against the other. This arrangement is especially noted in the border lines of the tumour. Along the margins of the tumour the cells are regular in outline, their nuclei are well preserved and the cell protoplasm stains deeply, whereas in the more centrally located portions the cells stain poorly, their nuclei having either disappeared or degenerated into a granular detritus. Occasionally a blood vessel is seen whose lumen is completely blocked with cancer cells, while its neighbouring vessels are normal. The axillary nodule presents the same type of cancer.

**FORTY CASES OF FEVER IN THE PUERPERIUM, WITH BACTERIOLOGICAL EXAMINATION OF THE UTERINE CONTENTS.** By J. WHITRIDGE WILLIAMS, Johns Hopkins University.

For the past two years Dr. Williams has examined the uterine lochia bacteriologically in every case of fever during the puerperal period. The rule has been adopted of taking cultures from the uterus only in those cases in which the temperature rises up to or above 101° F. The work is of great importance in its practical applications, for a positive diagnosis can be made as to the presence or absence of puerperal infection, whereby the prognosis and treatment can be determined.

In the forty cases examined in the two years there were found streptococci in eight cases; staphylococci in three cases; colon bacilli in six cases; gonococci in two cases; anaerobic bacteria in four cases; unidentified aerobic bacteria in three cases; bacteria in cover glass, but cultures sterile, in four cases; diphtheria bacilli in one case: gas bacilli (*bacillus acrogenes capsulatus*) in one case; typhoid bacilli in one case; cover glass and cultures sterile in eleven cases; cover glass and cultures sterile, with malarial plasmodia in blood, in one case; making a total of forty-four cases. This apparent discrepancy is due to the fact that a mixed infection had to be dealt with in several instances. These results are in accord with that observed by others, and only substantiate the doctrine that puerperal infection is wound infection, and like it may be due to a number of different bacteria which have been introduced into the patient from without. In the eleven cases in which cover glass and cultures were sterile the relation between the clinical symptoms and the bacteria found is not quite so clear as in the other cases; however, the presence of puerperal infection could be positively excluded. The temperature in these was probably due to an auto-intoxication from the intestines, for there was a rapid fall of temperature after brisk purgation. In some of them there were breast disturbances, and in some it was impossible to find any cause for the temperature.

Another eleven of the forty are interesting in that cultures of the ordinary cocci of puerperal infection could not be made, nor were the cultures sterile. In four of them anaerobic organisms were cultivated; of these four, two had short, thick bacilli; in a third was a thick bacillus, three to five times as long as broad. None of these organisms had a great degree of virulence. The last of the four ended fatally, and in it Dr. Williams demonstrated the gas bacillus.

In three of the eleven Dr. Williams cultivated aerobic bacteria, which he was unable to identify. From two of them he cultivated a non-pathogenic strepto-bacillus.

In the last four of the eleven, although bacteria were in the lochia, Dr. Williams was unable to cultivate them.

In some of these eleven the high temperature fell on brisk purgation. It is very doubtful if a causal relation existed between the bacteria and the symptoms observed, the latter being probably due to auto-intoxication. In these eleven cases infection by the more dangerous pyogenic bacteria was excluded.

J. F. J.

#### A NEW CONSERVATIVE OPERATION FOR THE CURE OF IRREDUCIBLE INVERSION OF THE UTERUS.

In 1893, Dr. Piccoli, of Naples, having attempted to reduce an inverted uterus by incision of the cervix without success, and

finding his patient exhausted by hæmorrhage, rapidly performed vaginal hysterectomy and saved his patient.

Subsequently, by experimenting on the removed uterus, he found it impossible to effect a reduction of the inversion until he had prolonged his incision, on the posterior surface of the organ, the whole length of the uterine canal, as far as the fundus. He then formulated the idea of a new operation whereby the uterus could be preserved, reduced and replaced, and he read a paper on the subject at the International Congress of Medicine in Rome, in 1894,<sup>1</sup> describing his process as follows: Having failed in the attempt of reducing the inversion by taxis, complete asepsis of the genital passages is secured, the uterus is lowered by means of an elastic ligature and the uterine mucosa curetted, a transverse incision is made in Douglas' pouch to ensure a large opening. Another attempt is now made to reduce the inversion by taxis, and if this fail, an incision is made through the whole thickness of the posterior wall of the uterus, from the external os to the fundus, when the uterus is reduced by doubling it back upon itself from the incised wall, so as to bring the mucosa inside, the peritoneal covering outside and the incised wall to appear anteriorly instead of posteriorly as it was before. The incision is then united by interrupted sutures. The uterus is now replaced into the abdominal cavity by raising it up through the opening previously made in Douglas' pouch, which is then sutured. In case of uncontrollable hæmorrhage from the incised surfaces, perform hysterectomy.

So far, the operation existed only in theory, and it was not until 1896 that Professor Morisani, of Naples, performed it on the living subject. The case was one of seven years' standing in a woman aged 25, having been caused at her first confinement by undue traction upon the cord, for the extraction of the placenta, by the midwife. She had received treatment during that time at various places, without any marked benefit. An operation was decided upon.

The parts were asepticated, a transverse incision was made in the posterior *cul-de-sac*, into which the index finger was introduced and directed into the peritoneal infundibulum of the inverted uterus. An attempt was then made to reduce the inversion by taxis, but without success. The incision of the posterior *cul-de-sac* was then prolonged on each side as far as the sacral ligaments; the index finger being introduced into the infundibulum of the inversion as a guide, an incision was carried through the posterior wall of the cervix and body of the uterus from the os to the fundus with a probe-pointed bistoury, and the uterus reinverted by pressing the thumbs on the base of the inversion and the fingers on the incised edges, so as to bring the

<sup>1</sup> Proposition di un nuovo processo per la cura conservatrice della inversione cronica dell'utero. "International Congress of Rome," vol. v., pp. 236-237.

incised wall anteriorly from the posterior position which it previously occupied. There was little hæmorrhage, with the exception of a small vessel which had to be secured and tied.

The incised surfaces were then brought into apposition and united by twelve deep separate sutures and two superficial ones with aseptic silk. The uterus was then pushed up through the incised opening in the posterior *cul-de-sac*, and replaced in a position of slight ante-version. The posterior *cul-de-sac* was left open, the vagina was irrigated with sterilised water and packed with gauze to keep the uterus in position. After the operation the patient had an attack of bronchitis, and on the sixth day the temperature rose to 104°; but a hypodermic injection of quinine and an intra-uterine injection of perchloride of mercury  $\frac{1}{80}$  dispelled all symptoms. On the tenth day the patient left in good condition. Eighteen months afterwards the position and function of the uterus were normal.

In 1897, Dr. Sava had a case of three months' duration, brought on by similar causes in a young woman aged 18, which he failed to reduce by taxis under an anæsthetic. The uterus was then drawn down by means of the elastic ligature, a transverse incision two inches in length was made in the vaginal wall of Douglas' pouch, about half an inch from its junction to the cervix, the index finger of the left hand was then introduced into the infundibulum of the inversion to guide a probe-pointed bistoury in incising the posterior wall of the uterus to within three-quarters of an inch of the fundus, when the inversion was easily reduced. The uterine incision was closed by fourteen interrupted sutures through the serous membrane and underlying muscular layer from the fundus to the os. The incision in the *cul-de-sac* having been found too small to pass the uterus through, a longitudinal incision was made from the centre of the transverse one, forming a T with the latter, and extending downwards for two inches, when the uterus could easily be replaced.

The longitudinal incision was ligatured with catgut, the transverse opening was filled with gauze for draining, and the vagina packed to maintain the uterus in a slightly anteverted position. No accident, slight loss of blood; some serous discharge on third, fourth and fifth days. The patient got up on the fifteenth day.

Dr. Duret, of Paris, has proposed certain improvements to the above method. He does away with the use of the elastic ligature, and employs instead Museux' forceps to draw down the uterus; he insists upon the uterine incision being prolonged to the fundus and made in the median line to lessen the possibility of hæmorrhage; he attaches the greatest importance to an accurate co-aptation of the two incised surfaces of the uterus. To obtain this object he applies a continued suture with catgut



to the mucosa, then deep interrupted sutures securing the serous membrane and muscular layer ; lastly, a few superficial sutures to close hermetically the peritoneum ; moreover, he applies the sutures to the body of the uterus before replacing the organ into the peritoneal cavity, and applies those of the cervix only after such replacement, thus ensuring better co-aptation of the incised surfaces at the os.

This operation is an invaluable addition to the treatment of a condition which has hitherto baffled the attempts of the most experienced gynæcologists in those cases in which attempts at reduction by taxis have proved ineffectual, and the only alternative left for those unfortunate patients was a miserable life under an unsatisfactory palliative treatment or hysterectomy, which, in a young woman, is so much to be deprecated when it can be avoided.

To Dr. Piccoli's keen observation is due the initiation of a method which will restore many women to their maternal duties, and save them from much misery and suffering, and, with this merit, he can well afford to leave to his followers the credit of perfecting the details of the operation. It may be mentioned that in 1893 Küstner advocated a method (*Centralblatt für Gynækologie*, 1893, No. 41) in which the idea of Dr. Piccoli partly dawned upon him, but his method was incomplete, inasmuch as the incision he advocated did not extend to the os externum, but only to within two centimetres of it, nor beyond that distance of the fundus. The os would, therefore, offer as great an obstacle to the reduction of the inversion as the cervix, and, on that account, the operation by Küstner's method would often fall short of effecting a reduction of the inversion, and the reduction itself of the incised uterus through an undivided external os would be a difficult proceeding in the course of an operation, if it succeeded at all.

P. Z. H.

THE USE OF MAMMARY GLAND IN THE TREATMENT OF FIBROIDS OF THE UTERUS, AND OF PAROTID GLAND FOR OVARIAN DISEASE. By JOHN B. SHOBER, M.D. (Philadelphia). *Am. J. of Obst.*

This is a preliminary report of cases of uterine fibroid and ovarian disease treated by the author up to date of publication by mammary and parotid gland respectively. His attention was called to the value of these gland preparations by Dr. Robert Bell's paper read at the British Gynæcological Society on May 14, 1896.

There are reports of four cases of fibroids of the uterus treated with mammary glands. The report of one is illustrative of all four.

CASE I.—M. W., aged 32, two children, first seen on Nov. 7, 1897. Since the birth of her last child, three years ago, menstruation has been more profuse than usual and painful. Two years ago a growth was noticed in the abdomen and had increased rapidly in size during the last year, during which she had suffered much with metrorrhagia, menorrhagia, backache, headache and constipation. She had become a morphia *habituée*, was very anæmic and nervous. The tumour was a large, globular fibroid of the uterus, rising to the level of the umbilicus with a lobule rising higher on the left side. It extended laterally into both flanks. Very hard and immovably fixed in the pelvis. From Dec. 14, 1897, to April 4, 1898, she was treated with powdered extract of mammary gland,  $2\frac{1}{2}$  grains being taken three times a day after meals. On April 4, the following note was made: "Tumour freely movable in abdominal cavity and is quite irregular in outline. The abdominal walls are no longer tense, but are soft and yielding and can be lifted away from the tumour. The upper edge is one inch below the umbilicus and there is marked lateral contraction. The tumour has been reduced at least one-third its original size. The general health of the patient has steadily improved, her metrorrhagia and menorrhagia have ceased, and she is rapidly overcoming the morphia habit." She is still under treatment.

The other three cases present similar results. In all, without any other treatment the tumour is steadily decreasing in size and the general health is improving. Later reports will be published.

The four cases of ovarian disease treated with parotid gland are cases of enlarged and tender ovaries with salpingitis. Ovarian pain and dysmenorrhœa are prominent symptoms. After two or three months' treatment with powdered extract of parotid gland, and ichthyol and glycerine tampons twice a week, the tenderness and pain disappeared, and on examination the swollen condition of the ovaries was found to have subsided. The author says that these results are not convincing, as equally good results have been obtained by purely local treatment. He is convinced, however, that the use of the gland materially aided and hastened the ultimate results.

J. F. J.

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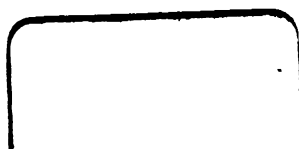
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